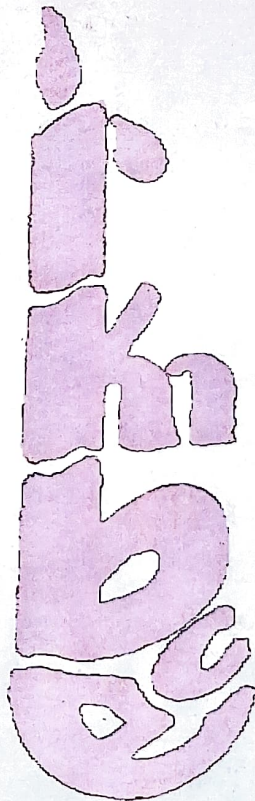


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FOREWORD

There is no doubt that after Independence a large number of people have become highly qualified and successful in their professional life. In the 21st century knowledge-based education has become a commodity. A commodity cannot be a panacea of all round development of the pupils. It is undeniable that in spite of the spectacular progress in various fields of our material life a section of our society is being swept by the storm of western hedonism due to globalization. People of this category are alienated from the rest of the people of our country. Rampant corruption in the society is denying the basic needs to the downtrodden people.

It is very much true that owing to some lacunas in the field of Education these maladies are overflowing our country. To put the society on the right track we are badly in need of, as Swami Vivekananda said, "Man making and character building education".

Educated people can not deny their accountability to the society. The mission of our journal is to sensitize the educated people, specially the in-service and pre-service teachers so that they can cope with the various problems in the field of education without disowning our heritage.

The 'Anwesa' has tried to explore different aspects of education in an innovative way. We hope its endeavour will be the fountain of inspiration to the educated people.

30 April 2007

Swami Kedaratmananda

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From the Editor's Desk

Now-a-days by 'education' many of us mean 'knowledge', i.e. mere accumulation of facts and figures. However, true education is not exactly that. It is not just garnering of ideas, but assimilating them. To do that a learner needs the power of critical thinking, understanding and synthesizing. Unfortunately, these are sorely lacking in the present system of our education.

There is no denying the fact that it is our duty to make the students and trainees alive to the challenges of modern education and intellectually receptive to the changes that are taking place in the domain of education. Being teacher-educators our purpose is to stimulate them and guide their self-development. It follows as a corollary from this premise that the tutors like the tutees should be alive with living thoughts and the latest knowledge. Keeping this in mind we have decided to bring out a volume of *Anwesa*, a journal of education, every year. Its devout mission is to evoke the power of critical thinking on the part of the teachers and elicit new ideas from them so that the teacher-educators and the would-be teacher-educators will be well equipped to face the challenges of education lying ahead.

Last year (2006) the maiden volume of the *Anwesa* saw the light of the day. We are happy to bring out its second volume this year (2007). This is our humble effort to articulate and analyze innovative ideas and new researches in the field of education and bring them to the students, teachers, teacher-educators, educational administrators, social scientists and educational policy-makers. We have concentrated on the research-oriented articles of the educational experts on different aspects of education – its curriculum, history, psychological aspects, social and philosophical issues, testing, methodologies, etc. It should not be out of context to mention here that we do not strictly adhere to the narrow and stereotyped aspects of 'Education' as a discipline. Instead, we take the word 'education' in its broader sense. So we have selected and included articles on art, finance and linguistics. In other words, allied subjects of 'Education' are not altogether left out, our general approach being interdisciplinary. We hope that the ideas and concepts of these subjects will add new dimensions to the understanding of the problems of various educational issues.

No doubt, we have given importance to the views and comments of the veteran scholars and experts of the colleges and universities. But it is our sincere endeavour to

provide adequate space for the students, trainees and young research-scholars who are the prospective teacher-educators of the future. Furthermore, we strongly believe that if the persons concerned with education, directly or indirectly, be it the education minister, policy-makers or the educational administrators, go through the pages of our journal and find some suggestions or solutions to the nagging educational problems of our country, our endeavour will meet some success.

Yet there is no room for self-complacency. We cannot admit that we have achieved the standard we set for ourselves. We can only hope that in the years to come our *Anwesa* will grow more and more and bring to our notice the changes that will occur in the ever changing world of education. Thus, our goal, to use Lord Tennyson's words, is :

To follow knowledge like a sinking star
Beyond the utmost bound of human thought ...

Finally, my thanks are due to all the scholars without whose contributions *Anwesa* could not have been brought out. I also acknowledge the assistance of the Principal of our college and my colleagues, teaching and non-teaching, who have extended their helping hands in every possible way.

30 April 2007

Malayendu Dinda

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Constructivist Views of Learning and Innovative Methods of Teaching Science

Madhumala Sengupta

Abstract

Teaching Science is a challenging task for a teacher. From psychological point of view, understanding scientific principles must take into account the theory of constructivism. Constructivism signifies the conceptual changes by incorporating new knowledge into existing knowledge base. The two important processes in this respect are assimilation and accommodation. In case of science teaching, the teacher often observe that students come to school with intuitive knowledge or they have some native theories regarding scientific explanation of various issues, which may not be compatible with actual scientific theories. The objective of science teaching should be to develop correct understanding of the scientific principles by activity based, reality oriented methods of teaching. Also it must be remembered that since understanding of scientific concepts is basic to science teaching, the curriculum should be never be overloaded. Key words-constructivism, native theory, non-routine problem solving

Constructivism

It was widely been recognised that learners in a teaching learning situation are not the mere recorders of new information; rather they interact actively and interpret the messages in their own idiosyncratic ways and build up their own knowledge base. This is the essence of constructivist approach to learning. A learner is a cognitive being, who gathers information about things, builds up mental model of the received information. This model may be the correct or incorrect representation of the situation. Winograd and Flores (1986) declared that knowledge is a store house of representations which can be called upon for use in reasoning and which can be translated into language. Thinking is a process of manipulating representation. Thus, each individual constructs his own understanding but even though the process of construction is individualistic in the beginning but gradually the constructive process becomes socially mediated. According to Newman et. al. (1989), interpretative construction of knowledge is initially idiosyncratic but through social mediation the construction becomes more congruent and communicable. The individual learner compares his own personal meaning with that of his peers and through negotiation class consensus is reached. Moreover, this constructed knowledge in class room situation must be verified and compared with the knowledge constructed by the community of experts through reading books and from other source materials. Thus, learning is a collaborative process where common grounding, beliefs and understanding are constructed. This constructivist referent to learning has important implication in teaching and learning of science subjects.

Conceptual Change

Teaching science is a challenging task to a teacher, be it physical science or social science. Learning or understanding scientific concepts is not merely receiving knowledge from the source only but it signifies essential conceptual change. Essentially it means : the new knowledge must be anchored with the current concepts to foster understanding. The process can be explained by Piaget's theory of cognitive development. The three processes involved in this respect are assimilation, accommodation, adaptation. Adaptation takes two forms, assimilation and accommodation. The process of assimilation is changing what is perceived to fit the present cognitive structure. On the other hand, accommodation is changing cognitive structure to fit what is perceived. The two processes go on simultaneously. The accommodation of new ideas is not always easy as often existing schemata or background knowledge may harbour misconceptions which resist change in understanding. These misconceptions or intuitive understanding make sense to the learner which is why he is reluctant to change it. Leander and Brown (1999) showed that learners develop native theories, which may make sense but not the correct scientific explanation and once formed, they are extremely resistant to change. The task of the science teacher is to challenge this intuitive understanding making the learner uncomfortable with the present understanding, so that eventually the learner will understand the science topics in a better way by accommodating the new information.

Importance of Understanding in Teaching Science

The school activities often are routine knowledge building or skill development. These activities are important, no doubt, but if scientific knowledge is not understood properly, it is of little value. Understanding science subjects basically means : being able to perform variety of tasks. For instance, generalising, finding new examples, applying the new knowledge in problem solving are the bases of understanding. It is the ability for extrapolation on the basis of understanding. The learner should be able to predict, for example, what will happen to the coin resting on the cardboard placed on the top of a glass when the cardboard is flicked by the finger.

Problem solving is central to cognitive theory of learning. It is not only the basis for understanding but also means for securing cognitive development. Problem solving can be of two types - routine as well as non-routine problem solving. Routine problem solving, which is the means of solving hundreds of day-to-day problems, requires only redeployment of existing cognitive structure. But in non-routine problem solving cognitive structure must be transformed and extended as the individual confronts unusual situations. Non-routine problem solving is generative of cognitive development through creation and reorganisation of existing cognitive structure. This kind of problem solving over the time and incrementally reinforces and strengthens knowledge base. (Billett 1995) This shows how important it is to teach science through problem solving method.

Methods of Teaching

The emphasis should be on teaching for constructive change and understanding. It calls for such methods of teaching which are complementary to constructivist approach. Obviously

such methods should be interactive in nature. Vygotsky (1978) maintained that direct teaching of concepts is impossible and fruitless. Active learning is the best method of teaching science. It refers to personal involvement of students and means purposeful interaction with the ideas, concepts and phenomena. Of course, science teaching often deals with 'hands on' activities. But naive theories cannot always be changed by mere 'hands on' activities but requires 'minds on' activities as well.

Bruner (1983), an eminent exponent of meaningful learning, developed a teaching programme which includes the following proposals-

- ☞ Emphasising the contrast (contrasting liquid state with gaseous state)
- ☞ Stimulating informed guesses (what could be the causes of *tsunami*)
- ☞ Encouraging participation (asking students to collect data, make observation, formulate and test hypothesis)
- ☞ Arousing awareness (asking them how did they solve problem)

Another concept related to constructivist point of view is multiple perspectives of ideas and problems. This is why group discussion in constructive approach to teaching science is so important. In this respect Schiever (1991) pointed out that classroom discussion is well suited for developing, comparing, and understanding different points of view. Most of the problems are multifaceted and knowledge base of any issue is the network of interconnected ideas. Beeth (1998) suggested some guidelines in this regard. These are as follows :

- ☞ Encouraging the students to make their ideas explicit
- ☞ Helping them to see the differences among ideas
- ☞ Encouraging metacognition
- ☞ Asking students for justification of their ideas

Essentially group discussion is the cognitive apprenticeship where the teacher skillfully guides the students to discover and understand new ideas.

The teacher needs to plan the class room activities beforehand and structure the discussion. The constructivist referent to teaching science should take into account the following:

- ☞ Learning should be made long term thinking process
- ☞ Discussion should accompany rich on-going feedback process
- ☞ Learning should be supported by imaginative and evocative representation
- ☞ Development factor or level of development should be taken into account
- ☞ Teaching for transfer
- ☞ Inducting students into disciplines. Science, history, mathematics have different ways of working. The students should be made aware : how each discipline justifies, explains and solves problem.
- ☞ Constructivist teachers need to understand how different students think, whether their knowledge is accurate and their awareness of knowledge.
- ☞ Variety of methods should be adopted by the teacher. These methods may include modelling, providing prompts, probes, providing rules of thumb for problem solving and use of technology.

- ☞ Students have to be helped to learn how to work productively in collaborative activities.

Some teachers are, of course, teaching very well without any help from cognitive psychology or educational researches. Nevertheless, the standard of science teaching in general would improve when constructivist views are incorporated in teaching process.

Curriculum

The researchers have observed that students often find science, specially physical science more difficult to learn than other subjects. This is not exactly due to the ineffective method of teaching. While teaching science a number of new concepts are introduced in too quick succession. (Carey 1986). The textbooks and curriculum often present large number of information making it difficult for the students to grasp the new concepts. So it is necessary to consider what should be the optimum load of curriculum. Anderson and Roth (1989) proposed adapting curriculum to emphasise depth over breadth and refocussing instruction to encourage meaningfulness. They suggested the following measures :

- ☞ Replacing technical vocabulary by those terms which will explain the ideas.
- ☞ Emphasising the topics in depth
- ☞ Programme developers must make decisions about what topics are most important
- ☞ Teaching those topics thoroughly, eliminating less important ones.
- ☞ Quality of understanding is more important than quantity of information presented.

Science Teaching Skills

Trowbridge and Bybee (1986) identified several characteristics of science teachers to make science teaching effective. These are mentioned below :

- ☞ The teachers should have good general background
- ☞ At the same time they must have specific physical science background.
- ☞ They should be able to apply science to new situations.
- ☞ They themselves must understand science, not only the basics but where science is today.
- ☞ Science instruction should be well organised.
- ☞ The teachers must build sequence of programme within the broader framework of the curriculum. In other words, pedagogical analysis of the content areas is important
- ☞ While teaching the class the teacher should be aware of the interpersonal relationship in the class because science teaching can be improved through group learning.
- ☞ The teachers should also try to foster positive attitude toward physical science. Especially the teacher must try to apply the laws of physics in real life situations and make the lesson meaningful to the students. The students must realise the importance of learning science and its day-to-day application, that is, learning tasks should be authentic.

- ☛ It is also obligatory on the part of the teachers to help students derive as much personal meaning as possible while learning.

To teach a subject skillfully, a teacher must be an expert in his own discipline, no doubt. But it is also imperative that a teacher should possess some insight into cognitive psychology. The construction of new knowledge does depend on learner's initiative, however, at the same time the teacher has to create a conducive atmosphere, which obviously is a challenge to him.

References

- Anderson, C., Roth K., (1989), "Teaching for Meaningful and Self Regulated Learning in Science". In J. Brophy (ed.) *Advances in Research on Teaching*, Vol.1, 265-309.
- Billett, S., (1995), *Structuring Knowledge Through Authentic Activities*. Unpublished Ph. D thesis, Faculty of Education, Griffith University, Queensland;
- Bruning, R., Schraw, G., Ronning, R., (1999), *Cognitive Psychology and Instruction*, (3rd Edition), Upper Saddle River, NJ. Prentice Hall.
- Carey. S., (1986), "Cognitive Science and Science Education", *American Psychologist*, 41,1123-1130.
- Eggen, P., Kauchak, D., (2001), *Educational Psychology*, Upper Saddle River, NJ. Prentice.
- Elliott, S., Kratochwill, T., Littlefield, J., Travers, J., (1996), *Educational Psychology*, London, Brown & Benchmark.
- Glynn, S., Yeany, R., Briton, B. (eds.), (1991), *The Psychology of Learning Science*, Hillsdale, NJ, Folbaum.
- Lederman, N., Schwartz, R., Abd-El-Khalick, F., Bell, R., (1999 April), "Preservice Teachers and Their Nature of Science Instruction: Factors that Facilitate Success". Paper presented at the annual meeting of the National Association for Research in Science Teaching.
- Newman. D., Griffin, P. Cole. M, (1989), *The Construction Zone : Working for Cognitive Change in School*, Cambridge, Cambridge University Press.
- Piaget, J., (1970), *The Science of Education and the Psychology of the Child*, New York, Orion Press.
- Pintrich, P., Marx, R., Boyle, R., (1993), "Beyond Cold Conceptual Change : The Role of Motivational Beliefs and Classroom Contextual Factors in the Process of Conceptual Change", *Review of Educational Research*, 63.167-199.
- Trowbridge, L., Bybee, R., (1986), *Becoming a Secondary School Science Teacher*, Columbus, OH, Merrill.

Causes of Scholastic Problems in Students of Rural West Bengal : Some Observations

Pratip Kumar Datta
Bijay Chand Das
Debasri Banerjee

Abstract

The present paper seeks to make an attempt to see the causes behind school teachers of rural Bengal being unable to apply the theories of active learning in the classrooms. The authors believe that there is a vast and drastic difference present in the environments of the schools, classrooms, student population, student motivation and teacher motivation amongst the schools. This diversity leads to the problem of generalization. This paper makes an attempt to highlight the exogenous reasons and tries to suggest a teaching learning method for students with scholastic problems in rural Bengal.

I. Introduction

The modern education system is supposed to be child or student centric. Age old theories, like 'Pipe Line Theory' or 'Gold Sack Theory', portraying students as blunt receiver of knowledge coming from teachers' end, has proved to be ineffective. Modern education system gives emphasis more on student participation and insists on 'active learning' at its broader perspective. Educational psychologists like Bruner and Piaget in their path breaking works show how students' cognitive development takes momentum with more and more participation of students in the classroom. But even the trained teachers of the schools of West-Bengal fail to apply these well formulated theories into the classroom due to some infrastructural, socio-economic and cultural set backs. The educational psychologists often try to model the problem at a very general frame work, ignoring the fact that the situations of the schools of rural and underdeveloped areas are completely different from those of its counterparts of the developed areas. When a teacher of rural West Bengal faces more or less hundred students in a single classroom, the teacher turns to be a mere discipline keeper rather than an academic personality. So, it becomes near to impossible for them to handle the individual scholastic problems of the students.

The normal schools of West-Bengal, especially, which are situated at an 'economically' and 'culturally' backward region, suffer heavily by some special types of scholastic problems among the students. These students are more or less normal in terms of their regular livelihood activities ; but within the classroom they simply behave in a strange and irrational

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manner. Despite the teachers paying serious attention to them, their minds remain absent from the study. They hardly participate in any classroom activity; no reward or punishment gives them any incentive for doing their work. This sort of scholastic problem arises mostly for different exogenous reasons. This study tries to find out the exogenous factors behind such problems.

II. Exogenous Reasons Behind the Problem

We can divide the exogenous factors into four categories, viz. infrastructural reasons, institutional reasons, cultural reasons and social reasons. We shall try to analyze each of them one by one.

1. Infrastructural Reason

In most of the schools of West-Bengal there is tremendous dearth of infrastructural facilities. Some of these infrastructural disadvantages are :

- a) Presence of huge number of students within a single class. This is just because schools do not have sufficient rooms or sufficient funds for building up new rooms for the schools. In such a huge class, quite obviously, only the advanced ones participate in the classroom. The others feel shy or hesitant to participate and the teachers cannot reach them in a forty-five minutes class. Besides, this large attendance prevents the teacher from having a thorough knowledge of each student. This leads to improper assessment of the needs and problems of the child and also hampers the providing of individual need based instruction.
- b) Teachers do not get proper teaching aids by which they can assure every student's participation into the classroom. With the excessive administrative and non-academic workload, they are given little time to construct their own teaching aids.
- c) It is quite surprising that schools of West Bengal have very little educational or academic atmosphere. Unlike the college-university teachers, school teachers hardly get any incentive for furthering their professional skills, be it academic or teaching procedural advancement. So, their teaching procedures in most of the cases lack motivation. So, it becomes difficult for the students to come out from their psychological problems without getting any support from their teachers.

2. Institutional Reason

In West-Bengal, despite serious efforts by the government against it, there exists a dual education system. Dual in a sense that they have the class teachers at one end and private tutors at the other. What they learn from their teachers in schools, gets completely washed out by the so-called learning that they receive from their private tutors. In most of the cases they become just confused by this dual system and hence come the scholastic problems.

(If private tuition seems to be necessity in current situation, then only the trained teachers should be licensed for the tutorials. Whatsoever, it is a question of educational policy and beyond the scope of this paper.)

3. Cultural Reason

We are now approaching towards a borderless world. The evil effects of globalization, which come mostly in the form of cultural shock, trickle down to the students and eventually build such a wall within the psychological structure of theirs that they start accepting teachers' view quite casually.

4. Social Reason

At the early days of every teachers' training class, trainee teachers are taught that teachers should behave in such a manner so that they can imprint an image of their personality into a student's mind. Students should be attracted by the personality of a teacher. But in reality, how far is it possible ?

Let us come to a simple arithmetic calculation. Of the 24 hours, five hours are spent in the school. Remaining nineteen hours are left free for the students. Out of these free hours, let us assume that twelve hours are required for physiological maintenance and in the remaining seven hours students observe many role models of their choice in the outside world. It is quite natural that they will find their worshipping role model in an attractive good looking celluloid character or a blasting sportsman, or a person who is spoken of in the newspaper.

In an economically, culturally backward rural area, students rarely observe any real life influential person (politically, social or economically) who received their virtues from formal education. So, one thing just makes its place into the student's mind that a person does not need formal education to be influential in the society. So, the classroom studies lose any appeal to them day by day and eventually a blockage develops in their mind.

III. The Model

In this section we would like to deal with those students who have some degree of discomfort in the classroom, have a mental obstruction or barrier or blockage, and have a fear (phobia) of a specific subject or subjects. A student may have all the three or one/two problems mentioned above.

Students' daily thoughts and experiences do have a great impact on their behaviour. Their thoughts and experiences control them both at their conscious as well as their subconscious levels. Human mind and body are closely related to each other. Human body is influenced by the mind. The in-built mental processor of human body sends their control signals to the biological peripherals of the body. These thoughts and experiences are mostly guided by the exogenous factors discussed in the earlier section. Due to exogenous nature of the factors mentioned in section II, teachers have very little or no control over these. Traditional psychological models rarely take into account these exogenous factors due to specific school condition of rural areas and, thus, are often not applicable in these classrooms.

So, it can be assumed quite rationally that these exogenous factors are responsible for irrational and/or abnormal behaviour of the students in the classroom. The chain of their

behaviour is like below :

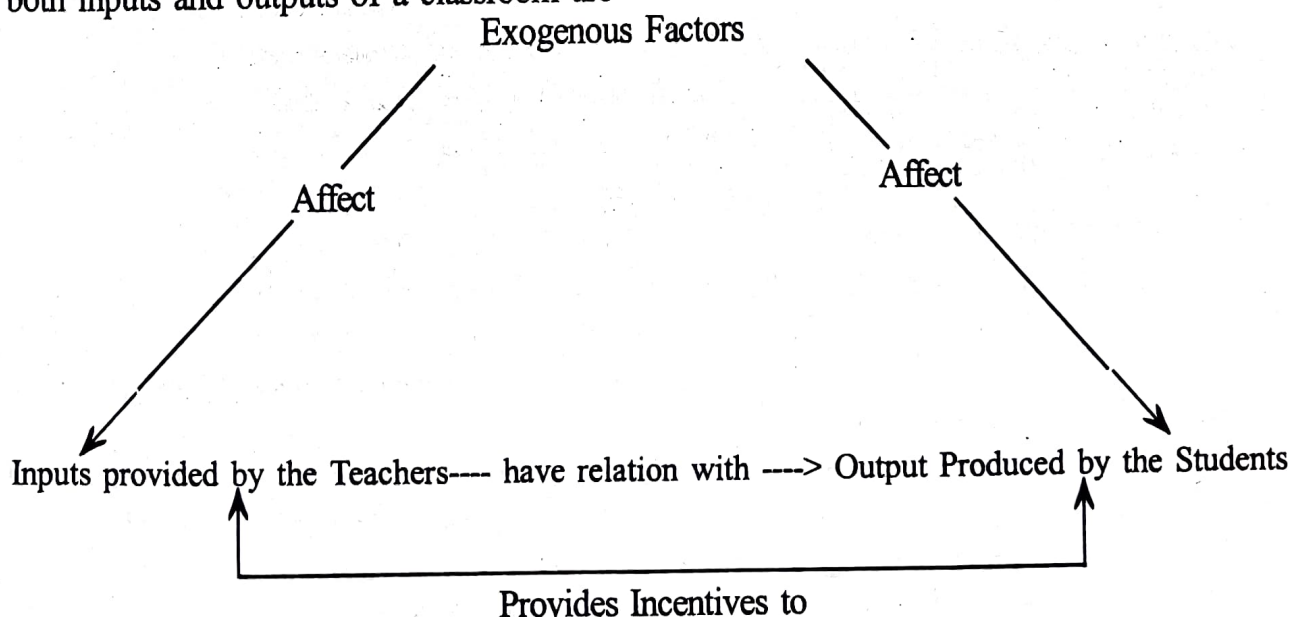
Impact of Exogenous Factors → Thoughts and Experiences → Emotions



Reactions/Behaviour.

The exogenous factors continuously bombard on the sensory organs of the students and their brain receives the due signals from these sensory organs consciously. Now this conscious memory is volatile but what a conscious mind receives from the nature create an imprint on the subconscious level of students' mind. Let us try to provide an example. Suppose a student observes that their class consists of more than hundred students. Due to the size they have to sit on the floor in a very congested manner. This situation is accepted by their conscious mind and imprints some specific thoughts and experiences in his or her subconscious mind. Due to the volatile nature of the conscious mind, student may not show any immediate reaction. But the imprint of the unhealthy and congested situation of the classroom in the subconscious level eventually creates an emotion in his/her mind and the student's reaction may be feelings of some degree of discomfort for him/her into the classroom. This reaction eventually leads to the specific scholastic problem of the students by affecting his/her motor action.

Students' consciousness has a close connection to reasoning. It is logical and is able to argue and discuss, and is able to differentiate between right and wrong, between reality and fantasy. On the other hand, characteristic pattern of students' subconscious layer of mind is that is it not logical, and it does not ask questions about the content of what it receives. In other words, their subconscious actions do not know the difference between right and wrong. It does not know the difference between reality and fantasy. As we have stated earlier, teachers have very little or no control over the exogenous factors, yet they should try to imprint some positive thoughts and experiences in the subconscious layer of the students. The task is again not very easy because the efforts of the teachers are also greatly affected by the affected by the exogenous factors. The relations are like below : In other words, both inputs and outputs of a classroom are



So what we have observed from the above diagram is that there is a two way relationship between inputs and outputs within a classroom. Effects of exogenous factors weaken this relationship. In order to create a better teaching-learning atmosphere in the classroom, this two way relationship should be strengthened.

It is definitely a very critical job for the teachers to do so in a class having excess students. So, let us make some compromise here. Since all the students in the classroom are not of same ability and motivation, we can divide them into some categories or groups. Now let us set different objective functions for different groups. For example, suppose a classroom has one hundred students. We shall first divide the whole set of students into three categories keeping in mind their similarity of interest, IQ level, proficiency in some psycho-motor action, viz. section A: laborious students ; section B: creative students ; and section C: students having scholastic problems.

The objective function for section A is to score on a standardized test. The objective

Section	Characteristics of Students	Objective	Teaching - Learning Method
A	Labourious Students	Score on a Standardized Test	Direct Instructions
B	Creative Students	Nurturing Creativity	Open Education
C	Students Having Scholastic Problems	Strengthen the Two Way Relationship	Cooperative Learning

function for section B is to enhance creativity and that of section C is to strengthen the two way relationship among the teacher and the students. The corresponding teaching – learning procedures are shown below in a tabular form.

Table 1 : Teaching - Learning Methods for Differnet Sections of Students

The teaching - learning methods of the first two sections are beyond the scope of this study. So, we would like to concentrate only on “Cooperative Learning”. It is noteworthy in this connection that the original theory of “Cooperative Learning” was formulated by Balkcom (1992) and we intend to suggest his model here to teach the students having scholastic problems. So we shall not go into the details of this theory.

IV. Conclusion

That day has past when only the socially, culturally or economically advanced families would send their children to schools. Mass education programmes have embraced a wide spectrum of children in school. Now the ratio of backward people taking the advantage of education is much higher.

The most telling problem with the students lies in treating them as a mass block and not as individuals. But it is quite natural since the arena of education has expanded. Even those have come into the periphery of scholastic education who, so far would serve other people, work at brick kilns, live life as a shepherd or be accounted as child labourers. It is

not surprising that a classroom is bulging with enrolments. It is not unnatural that they have mental blocks. The newly literate class has always preferred to keep silent or detached from the on goings after their forefathers' example.

Such mental blocks are not easy to lift. It is harder especially, when silence and detachment are considered virtue among people. When it is their genetic or ethnic characteristic, it is the hardest. Rural schools students from aboriginal descent do support these facts.

So, we need special techniques and approaches to handle these apparently normal students. If we are not to leave them in their present normal state or in their past natural habitat, we need to build a future model where they can be treated so that they can bring out their best to suit the modern society.

To attain this very objective, the mass block of students may be divided in some sizable groups or category but not in a random manner. These should be some specific objective when such grouping is made so that the ultimate aim of reducing the influence of exogenous factors on teaching-learning method can be achieved. Even under a most severe school situation, we strongly believe that this is possible. And last but not the least aim of this study is to make the teachers realize and accept the challenges coming from the exogenous factors.

References

- Balkcom, A. (1992). "Cooperative learning". *Education Research Consumer Guide*, Number 1.
- Giacona, R. & Hedges, L. (1982). "Identifying Features of Effective Open Education." *Review of Educational Research*, 52, 579-602.
- McIlrath, D. & Huitt, W. (1995). *The Teaching/Learning Process : A Discussion of Models*. Valdosta, GA: Valdosta State University.
- Rosenshine, B. (1995). "Advances in Research on Instruction". *The Journal of Educational Research*, 88(5), 262-268.
- Salvin, R. (1995). "Cooperative Learning and Intergroup Relation". In J. Banks (ed.), *Handbook of Research on Multicultural Education*. New York : Macmillan.
- The Madeline Hunter Direct Instruction Model* : available at <<http://www.humboldt.edu>> accessed on October 5, 2006.
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Poverty and Illiteracy : Tarnishing Twins of Time

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Abstract

Literacy and poverty are the two most important indicators of human development. There is a causal relationship between the two – when one increases then the other decreases. Greater literacy and basic education helps individuals to make better use of available economic opportunities. Poor and illiterate population gets stuck in the deprivation trap and continues to remain there and suffer generation after generation. For this study secondary data are used and for analysis of data both qualitative and quantitative method are done. The study reveals that due to the defective policy planning and its implementation, even after 60 years of Independence, India failed to achieve cent percent literacy and eradicate poverty completely. Poverty and illiteracy continues to remain. To combat these problems, unique need based programmes need to be framed and implemented.

Poverty and illiteracy are indispensable friends. They go hand in hand. Poverty is a situation that gives rise to a feeling of a discrepancy between what one has and what one "should have".

Three precepts which are often used to define poverty are : the amount of money required by a person to subsist, the life below a 'minimum subsistence level' and 'living standard' at a given time in a given place, the comparative state of well being of a few and the deprivation and destitution of the majority in the society. Of these three, the first two are economic while the third one is a social concept.

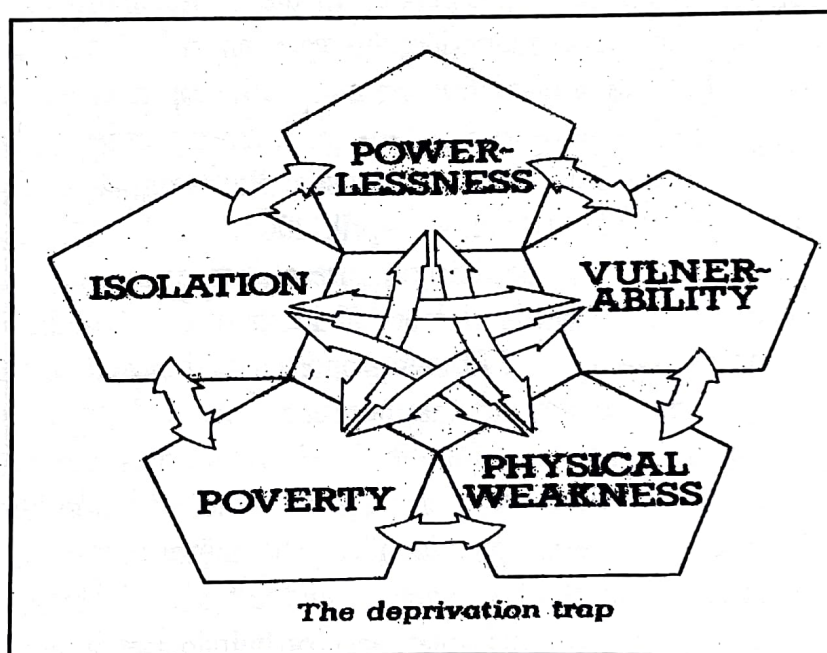
Economic concept – In terms of a minimum income required for subsistence, poverty has been defined as an inability to gratify the physiological need i.e. the need for survival, safety and security. Here 'poverty' is perceived in terms of 'poverty line', which is determined by the prevailing standards of what is needed for health, efficiency, nurturing of children, social participation and maintenance of self-respect. In India, 'poverty line' is drawn on the basis of per capita (adult) daily intake of 2400 calories for the rural and 2100 calories for the urban areas.

Social concept : According to Harrington, poverty is the deprivation of those minimal levels of food, health, housing, education and recreation which are compatible with the contemporary technology, beliefs and values of a particular society.

Sociologically speaking, the poor are caught up in a vicious circle. Being poor means living in poor neighbourhood, which means being unable to send their children to schools, which means not only to remain poor themselves but their children too will have low paying

jobs or no jobs at all, which means being doomed to remain poor for ever. Also, being poor means eating poor food, which means having poor health, which in turn makes the individual handicapped or too weak to handle heavy manual work, which also means accepting low paid work, which again leads them to remain poor for ever, generation after generation. Thus, each circle begins and ends with being poor.

R. Chambers, has clearly shown the deprivation trap in the society more than two decades ago which still exists. Examining poor households and their immediate environments we can see that clusters of disadvantages interlock. This is variously described as the vicious circles of poverty, the syndrome of poverty and poverty trap. Linking the five clusters (figure is given below) give twenty possible causal relations, which in their negative forms interlock like a web to trap people in their deprivation.



Berstein Henry (1992) has identified the following dimensions of poverty : lack of livelihood strategies, inaccessibility to resources (money, land, credit), feeling of insecurity and frustrations, inability to maintain and develop social relation with others as a consequence of lack of resources.

Important measures of poverty are : malnutrition [below a limit of 2100 (urban) and 2400 (rural) calories per day], low consumption expenditure (below Rs. 259/person/months at 1993-94 price level), low income (below Rs520/person/month at 1993-94 price-level), chronic illness or poor health, illiteracy, unemployment / underemployment, and deplorable living condition. Some economists criticized the concept of Calorie Norm and instead suggested of Fat Norm as a measure of poverty. If we consider the concept of 'Fat Norm', it is found that there are near about 50% people live below the poverty line.

According to World Bank, World Development Report, 2001-02, nearly 20% of the individuals / households are at the lowest / bottom rung of the income ladder (also described as the Lowest Fifth or First Quintile) receives 8.9% of the national income. At the other end, 20% individuals / households are at the highest rung of the income ladder (also described as the Highest Fifth or Fifth Quintile), takes away as much as 41.6% of the national income. If

one takes up the lowest 10% individuals/ households at one end and the highest 10% at the other end, the fact of inequality is more glaring, with the lowest getting as much as 3.5% of the national income and the highest getting as much as 33.5% of the national income.

According to the World Development Indicators published by the World Bank (2004), over a billion population are living in extreme poverty and subsisting on less than \$1 a day. A large proportion of extremely poor population lives in South-Asian countries, constituting about 31% of world's poor, but the largest proportion is located in sub-Saharan Africa. In India, almost 35% of the population lives below poverty line of \$1 a day (Estimates relates to 1999-2000). It also pointed out that more than 2 billion people in the world continues to live with per capita consumption of less than \$2 per day. This constitutes about 53% of the world's population and about 77% of these people are in South-Asia.

In contrary, in the list of the richest persons of the World, India ranks 4th. According to a Survey conducted by the Forbes magazine, this year out of 946 billionaire of the world, a considerable number of Indian industrialists are among the top rank holders. Laxmi Nivas Mittal (19,1000 crores US Dollar) — 5th richest man, among other Indians are Mukesh Ambani, Anil Ambani, Ajim Hasim Premji, Kushal Pal Singha, Sunil Mittal, Kumar Mangalam Birla, and many others. (Desh, 2nd April, 2007).

Poverty probably causes more death, more disease, more suffering, more misery than any other social phenomenon. It breeds violence and hatred. On the other hand, education breeds goodwill, peace and harmony. Without proper education and social awareness the establishment of an egalitarian society is a distant dream.

Education has an intrinsic value for the development of society and helps in the achievement of a better social order. Greater literacy and basic education helps individuals to make better use of available economic opportunities. The ability of a nation's population to learn and perform in an environment where scientific and technological knowledge is changing rapidly is crucial for its growth. With the importance of human capital and its augmentation for a nation's development cannot be over-emphasized, its micro-economic consequences also needs to be acknowledged. Improvements in the functional and analytical ability of children and youth through education open up opportunities leading to both individual and group entitlements. Improvements in education are not only expected to enhance efficiency (and therefore earnings) but also to augment democratic participation, up gradation of health and quality of life .

Literacy is an indispensable means for effective social and economic participation contributing to human development and poverty reduction, says UNESCO.

Literacy and poverty are two most important indicators of development of a nation. Education acts as a catalyst for cultural, economic, political and social development. The literacy rate for the country as a whole increased from 18.33% in 1951 to 65.38% in 2001. The literacy rate recorded an increase of 13.17 %, 52.21% from 1991 to 2001, the highest increase in any one decade. But it is unfortunate that the total number of illiterate population in India is about 35 crores which is greater than that, at the time of Independence. However, development of literacy is not uniform, it varies from state to state (Kerala has the highest literacy rate of 90.92% and Bihar has the lowest literacy rate of 47.53%), between

male and female (75.85% and 54.16% respectively), between rural and urban population (59.21% and 80.06% respectively). The literacy rate among Muslim, SC/ST is 59.1% and 52.2% respectively (Census, 2001), which is far below the national average of 65.1%. In regard to female literacy among SC/ST in rural areas, the worst condition is in the state of Bihar, which accounts to only 14%. In case of Muslim females in rural areas the condition is also miserable.

The National literacy Mission launched in 1988 aimed at attaining a literacy rate of 75% by 2007. It imparts functional literacy to neo-literates in the age group 15-35 years. The total literacy campaign is the principal strategy of the NLM for eradication of illiteracy. The Continuing Education Schemes provide a learning continuum to the effort of the total literacy and post-literacy programme.

Elementary education is a basic requirement not only to economic growth but also to the welfare of the society. Without elementary education, especially the ability to read and write, it is impossible to make any real impact on poverty. It is also difficult despite economic liberalization, for India to compete in the world market even as it is opening up its economy and seeking to compete in the production of goods on the World Market (Dreze and Sen, 1995).

Everyone has the Right to Education, states Universal Declaration of Human Rights (1948). Since then, goal of achieving Universal Primary Education (UPE) has been an international agenda. Education has an important role to play to improve the quality of life, to attain the ideas of peace, freedom and social justice. In 1990, at Jomtein World Conference in Thailand, the goals of Education For All (EFA) were set and it was proclaimed that every child, youth and adult shall be able to benefit from the educational opportunities which would meet their basic learning needs. The World Education Forum in Dakar, Senegal, declared that EFA for all children should be achieved by 2015. Delor's Commission (1996) described education as one of the principal means available to foster deeper and more harmonious form of human development and thereby to reduce poverty, exclusion, ignorance, oppression and war.

The goals of Dakar's framework for "Education for All" (2000), strive to ensure basic education to all, particularly those who are in difficult circumstances and also to ensure equitable access to appropriate learning and life-skill programmes. To achieve these goals it is essential to spread education among all irrespective of gender, caste, religion, age, economic status.

Worldwide more than 130 million children aged 6 to 11 years are not attending school of which nearly 60% are girls. In developing countries, 55% of boys and 46% of girls are enrolled in schools. The gap is wide enough in South-Asia where 65% of boys and only 50% of girls are enrolled in schools. (UNICEF, The State of the World's Children Report, 2000). About 781 million adults around the world are illiterates (as of April, 2006) — (UIS Literacy Assessment, April, 2006).

India has already missed the target of gender parity covering all children aged 6-14 years in school by 2005. It is shameful that the magnitude of child labour has increased from 11.59 million (Census, 1991) to 12.66 million (Census 2001). Approximately 65 million

children aged 6-14 years were not attending any educational institutions in India (Census, 2001).

Review of related literatures has revealed that poverty was one of the main contributory factors for the hindrance to the universal primary education (UPE). Indian Institute of Management, Kolkata (1994), Saraswati (1997), Sarmah (1997), Josephine (1997), Banerjee (2000), Ansari (2001), Chakrabarti (2001) emphatically stated that poor economic background of children is the principal constraint for achieving the goal of UPE.

One of the inherent problems in a developing country like India, with a vast population near or below the poverty line is that, here, child labour arises primarily due to economic compulsions and therefore only improvements in schooling facilities is not going to change the scenario. If the parents are at least literate or aware of the importance of education and are somewhat economically stable only then they will stop sending their children to job market and instead make effort to impart education to them.

India accounts for a meagre 2.4% of the world's surface area of 135.79 million sq.km., yet it supports and sustains a whopping 16.7% of the world's population. Indian's population has crossed one billion in 2001 and density of population is 353/sq.km.

Most of the poor belong to the weaker sections of the people. In rural areas there are landless labourers, small and marginal farmers, rural artisans and craftsmen including fisherman and people belonging to backward classes and tribes. The urban poor, quite many of them, immigrants from villages lives in slum areas and on pavements. There are beggars, rag pickers, rickshaw pullers household maids and so on.

Planning for development continues to play a vital role in the Indian economy. Poverty reduction has been a major goal of development policy in India since the country become independent and the achievement of a minimum standard of living for all within reasonable period has been one of the major objectives of all socio-economic endeavours initiated under the various 5 year plans.

The problem of poverty and unemployment is considered to be the biggest challenge to the development planning in India. High poverty levels are synonymous with poor quality of life, deprivation, malnutrition, illiteracy and low human resource development.

The 10th Five Year Plan (2002-07) begins the discussion on poverty alleviation in the in the following words : "At the beginning of a new millennium, 260 million people in the country, did not have income to access a consumption basket which defines the poverty line. Of these 75% were in rural areas. India is a home to 22% of the world's poor. Such a high incidence of poverty is a matter of concern in view of the fact that poverty eradication has been one of the major objectives of the development planning process. Indeed, poverty is a global issue. Its eradication is considered integral to humanity's quest for sustainable development. Reduction of poverty in India, is therefore vital for the attainment of international goals."

Few selected developmental objectives of the 10th Five Year Plan are — Reduction of poverty ratio by 5% points by 2007 and by 15% points by 2012, (1) Providing gainful and high quality employment atleast to addition to the labour force over the 10th plan period. (2) All children in school by 2003, all children to complete 5 years of schooling by 2007.

- (3) Reduction of gender gaps in literacy and wage rate at least by 50% by 2007.
- (4) Reduction in the decadal rate of population growth between 2001 and 2011 to 16.2%.
- (5) Increase in literacy rate to 75% within the plan period.

The estimates released by the planning commission based on NSSO States that in 2004-05, 27.5% of the population still lived below the poverty line (i.e. approximately 30.17 crore people are living in deprived condition).

The poverty reduction target set by the Planning Commission for the 10th Five Year Plan aimed at achieving a poverty ratio of 19.3% for the country as a whole by 2007, 21.1% for the rural and 15.1% for the urban areas. It was expected that the number of poor will come down to 220 million by 2007.

The Human Development Index value indicates how far a country has gone to attain certain defined goals : an average life span of 85 years, access to education for all and a decent standard of living. The maximum and minimum values for each variable which are fixed are reduced to scale between 0 and 1. Countries are accordingly classified into 3 groups — (a) High human development countries – countries with HDI value of 0.800 and above. (b) Medium human development countries – countries with HDI value of 0.500 to 0.799. (c) Low human development countries – countries with HDI value of below 0.500 UNDP's global Human Development Report (HDR) for 2005 ranks India at 127 out of 177 countries of the world in terms of a composite Human Development Index (HDI) for 2003.

Poverty alleviation programmes : The strategy for poverty alleviation is essentially two fold. Firstly, an effort to provide greater opportunities for the poor to participate in the growth process by focusing on specific factors, which offer such opportunities. Secondly, alleviation and social sector programmes have been strengthened and restructured with special programmes for the weaker sections of the society.

Some major poverty alleviation, employment generation and basic service programmes are – (1) The Integrated Rural Development Programme (IRDP) Provides subsidies / loans for self-employment and supportive land based activities like irrigation, animal husbandry etc, (2) Training Rural Youth For Self-Employment (TRYSEM) provides technical skills to rural youth to enable them to seek employment in fields of agriculture, industry, services, business activities, (3) Jawahar Rojgar Yojna (JRY) tries to generate additional gainful employment for rural unemployed and under employed and provides employment for 50 to 100 days in a year to at least to one member in poor family, (4) The National Rural Employment Programme (NREP) provides wage employment in slack season, (5) The Rural Landless Employment Guarantee Programme (RLEGP) Provides 80 to 100 days of wage employment to every landless households, (6) Swarna Jayanti Sahari Rozgar Yojna (SJSRY) is an urban self employment and wage-employment programme, (7) Valmiki Ambedkar Awas Yojna (VAMAY) deals with construction and up gradation of dwelling units and providing healthy urban environment through community toilets under Nirmal Bharat Abhiyan, (8) Pradhan Mantri Gramodaya Yojana (PMGY) tries to provide basic services like education, health care, drinking water, electrification etc. in rural areas, (9) Indira Awas Yojana (IAY),

constructs houses for the poor, free of cost, (10) Drought prone Area Programme (DPAP), Desert Development Programme (DDP) and Integrated Wasteland Development Programme (IWDP).

In implementing such programmes Panchayet plays an important role but unfortunately, diverse social issues and inter as well as intra conflict among various political parties often acts as a barrier in implementing various Government policies and programmes meant for overall welfare of the society (specially the rural, and backward areas) like Poverty Alleviation Programme, Sarva Siksha Abhiyan, Integrated Child Development Programmes, Mid-day meal scheme and many other such programmes.

Poverty has declined considerably over the last three decades, but the magnitude and characteristics of decline show some patterns. The decline was sharp in those states where agricultural growth is higher in comparison to those states where income growth has been low. Due to uneven poverty reduction across the states and social groups, the poor are getting concentrated in less developed states as well as among a few vulnerable social groups. In agriculturally prosperous states, agricultural labour households accounted for the bulk of the rural poor and in the less developed regions rural poverty is extended to other occupational groups, including those self employed in agriculture. In urban areas, poverty tends to be concentrated more among casual labour households. Thus, the poor are likely to be vulnerable to risks in the labour market and may increasingly suffer from transient poverty since their dependence on the casual labour market for livelihood is rising both in rural and urban areas. Backward regions and disadvantaged social groups are afflicted by chronic as well as transient poverty.

The reason why expansion of elementary education remained miserably poor in India, has a historical legacy as has been pointed out by Krishna Kumar in his treatise, Political Agenda of Education, 1991. He remarked that during colonial rule more emphasis was given on higher education in comparison to elementary education. After independence, India realized the importance of improving elementary education. So while framing the Indian constitution a provision was made for imposing an obligation under Article 45 of Part – IV (Directive Principles of State policy) as “the State shall endeavour to provide within a period of 10 years from the commencement of the Constitution for free and compulsory education for all until they complete the age of 14 years”.

Since Independence number of primary and upper primary schools have increased, enrolment at primary level of education has increased 6 times from 19.2 million to 113.9 million during 1950-51 to 2001-02. The increase in girls enrolment has increased 10 times from 5.4 million in 1950-51 to 52 million in 2002. But yet we are much behind the target.

Mere imitation of the west or the developed countries should not be the strategy to be adopted to upgrade and spread quality education among the developing countries because developing countries are marked by some unique problems of their own specially related to over population, poverty, illiteracy and unemployment. To combat these problems unique need based programmes need to be framed and implemented. Only setting up of commissions one after another and piling up of their reports won't help much. Improvement

and fullest utilization of resource both man and material is essential and this can be done with the help of education and technology. Resource and wealth should be justified spotted out and pedantic discourse should have been made to reach a point whether even and equitable distribution of wealth and resource is exigent to this effect.

References

- Agarwal, A.N., Indian Economy Problems of Developments & Planning, New age International Publishers, New Delhi, (36th ed), 2006.
- Aggarwal, J.C. Development and Planning of Modern Education, (8th ed), Vikas Publishing House Pvt. Ltd., New Delhi, 2004.
- Ahuja, R., Social Problems in India (2nd ed.), Rawat Publications, Jaipur and New Delhi, 2003.
- Chambers, R., Rural Development, putting the last first, Longman, USA, 1983.
- Desh, H. D. (ed), ABP Private Ltd., Kolkata, 2nd April 2007.
- Dreze, J. and Sen, A., India Economic Development and Social Opportunity, Oxford University Press, New Delhi, 1995.
- Fifth Survey of Educational Research 1988-92, Vol. II, NCERT, New Delhi, 2000.
- Kapila, R. and Kamila, U., India's Economy, A journey in time and space, Academic Foundation, New Delhi, 2006.
- Pant, K.C., India's Development Scenario, Academic Foundation, New Delhi, 2003.
- Rao, S., Sociology, Principles of Sociology with an introduction to social thought, (6th ed), S. Chand & Company Ltd., New Delhi, 2006.
- The Probe Team, Public Report on Basic Education in India, Oxford University Press, New Delhi, 1999.
- UNESCO, World Education Report 2006, Oxford, 2006.
- UNICEF, The State of the World's Children Report, New York, 2000.
- UNICEF, The State of the World's Children Report, New York, 2001.
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A Brief Outline of Pre-Gupta Art of Bengal

Swati Ray

Abstract

This article is about a brief outline of Pre-Gupta art of Bengal, dedicated to general readers and to those who are interested in Indian art. Gupta period witnessed an all Indian blossoming of Indian art. In this context, the Pre-Gupta period is important. Recent researches are beyond the scope of this article.

From the point of view of studying the art of pre-Gupta Bengal, the geographical area should be divided into three unequal zones. The first zone, called the ancient Vanga, included the lower part of West Bengal and the coastal portion of Bangladesh up to the mouth of the Padma. The second section constituted the upper region of West Bengal and Bangladesh, mainly to the north of the Padma. It was known as Pundravardhana - Bhukti, at least in the Gupta age, though the name Pundravardhana had a higher antiquity. The area to the east of Padma and Meghna, or Brahmaputra, may be taken to have formed the third zone for the sake of our study.¹

Of these zones the first one (Vanga), is the most important producing by far the largest number of art objects and artifacts of the pre-Gupta period. So we shall study the items of this area in detail. Men are acquainted with the technical or scientific knowledge associated with the manufacture of the daily utility objects. Often, he makes things which are not required in daily life. After seeing these, one finds the source of aesthetics and artistic sense. The creator of these type of joyous things is an artist. His art reveals man's creativeness, his artistic ability.

In the annals of world history, the beginning of fine art goes back to 30,000 years.² One does not know when the artistic sense rose. In some parts of Purulia, Bankura, Midnapur, Birbhum,² were discovered ancient artifacts which were mainly used by food gatherers and hunters. Though one can find technological evolution in them there is no sign of fine arts. In the micro lithic age the same may be said.

In the neolithic age, great changes came in man's daily life. Various activities like the capability of polishing the stone tool to a shine, technical knowledge of making potteries, and the growth and development of cultivation were practised. Introduction of permanent habitats, domestication of animals, all these removed the uncertainties of life to some extent. In the southern part of West Bengal, the inhabitants had enough time to look after their physical and environmental beauty. Naturally, there arose the desire to beautify his utility objects, even so, to express his inner feelings, to draw pictures and to recreate oneself in sculpture.

In this way the fine arts developed in this area from the neolithic age onwards. Only rock-shelter having some amount of cultural debris would have been useful but it is very difficult to identify the site in the context of periodisation ranging from pre-history to history. However, the publication about Lal Jal specifies the site as neolithic in relationship with the cave painting but in the absence of datable material and diagnostic types of pre-historic assemblage, they did not help us for a sequence study.³ We find a cave painting of a bull in profile using red colour in a nearby hill of Lal Jal in Midnapore. Though the painting has faded, it gives the impression as if the animal turns back as it moves forward. This apparent mobility is an indication of the artist's credibility. The objects discovered from the cave indicate neolithic age.

Some fragments of clay potteries have been found here. But the fact lies, it is not known how far the tendency to the use of potteries was prevalent in the southern part of West Bengal during the neolithic age.

Our knowledge is incomplete due to lack of scientific archaeological excavation, at prospective sites. Before 2000 B.C.E. the use of copper had influenced the technique of pottery making and clay dolls. We find potteries of that period, where the inner side of the potteries are decorated with geometric designs using black and white (whitish) colours. Sometimes, outlines of trees, leaves, starfish and spider can be found.

Thus, through shape, form, drawing/painting (as termed in our modern technology), the tendency of art in industry, started. Subsequently, this characteristic flourished.

In the copper age, people of lower West Bengal used to make clay dolls, by pinching clay method. Examples of such art forms have been found at Pandurajar Dhibi and from excavations at Mangalkot, Burdwan district. But the site which had yielded such clay dolls, beads, clay toys have also revealed the use of iron. So it can be termed as the Bronze Period 1200 – 600 B.C.E. Clay dolls of Pandu Rajar Dhibi constitute a distinctive art form. Therefore, it can be said that the terracotta art started during 2000 B.C.E. It cannot be said definitely that in the handmade female figurines one could find therein the resemblances to any particular goddesses.

Human settlements in south Bengal and in lower West Bengal developed when people began to migrate in the delta region of Bhagirathi (probably after confirming the navigability of the rivers and other advantages). In the Maurya period towns and cities were built to facilitate communication and agriculture (last part of 400 B. C. E.) and this continued to the second decade of the second cent C.E.

Excavations indicate that in the latter part of the early period (approx 200 B.C.E.) the initial framework of the house was built on a wooden pole buried in the ground. Often the earthen floor was strengthened with clay sherds, gravels and covered with cowdung.

The upper framework of the walls were made of lattice work of vines (or sliced bamboo stems); the same materials were used for roofs.

The walls were covered with clay (cowdung) to strengthen them. This architectural technique was refined (like, to strengthen the floors with the use of betumen lime and burnt clay in the subsequent 200 years). But noteworthy developments were found in the settlement of first ten centuries C.E. The usage of larger bricks, iron pegs, made the construction of houses stronger. A mixture of lime, powdered bricks and gravel was pounded over a brick layer to make a smooth, firm flooring. In some cases, layers of brick were laid over an initial brick base which was finally layered with pounded lime, powdered bricks etc. In certain instances, brick walls were used and the roofs were made of tiles. Probably a number of such rooms made one house. In a house at Mangalkot were found brick-lined drains, a courtyard paved with bricks, and also a brick lined well.

With the improvement of agrarian economy, trade and commerce, a particular section of the community became prosperous, having surplus wealth. Requirements for the ruling classes— often these were used for the walling of towns. Chandraketurgh reveals a mud wall which was later restored. From certain seals we can ascertain the gateways connected with these walls and large buildings. The toranas depicted on these seals are similar to those of Sanchi. Pillars of corridors seen in clay tablets with the inverted lotus surmounted by animal figures reflect, Central Asian influences.

In Pre-Gupta Bengal, Brahmanical as well as Buddhist religion prevailed. Therefore, the architecture of the religious buildings can, thus, be imagined. A number of inscriptions mention the presence of various monasteries. In Bharatpur of Burdwan District the remains of a brick stupa have been found. Here is found the pancharatha base with a circular stupa on it. Comparing it with the other known stupas it can be presumed that the elongated hemispherical dome of the stupa had the square harmika with the surmounting chatrabali.⁴

At Bahulara, remains of small (Jain) stupas have been found. Of course these or the Bharatpur stupa cannot be labelled with certainty as belonging to the pre-Gupta age. In fact,

the shape of the Bharatpur stupa suggests a later origin. But dedicatory stupas found at Chandraketurgh of North 24 Parganas are probably of pre-Gupta age. The circular bases of these stupas made of bones are made of three layers. The main structure of the stupa with the surmounting chatrabali was based on the top most layer.

We have no knowledge of temple architecture in pre-Gupta Bengal. But the oldest ruins found at other regions indicate that there was a square (rectangular) hall with a pillared verandah in front. A staircase was present in the verandah surmounting the base.

Comparatively, there have been many discoveries of sculptures in pre-Gupta Bengal. Most of them are of clay or terracotta. Some stone and bone sculptural pieces have been found. Prasanta Kumar Mondal has drawn our attention to certain bone sculptures found at Natshal, Midnapore District. Bone sculptures with animal and human heads were lightly or shallowly etched, or painted. The colours were black-red or whitish. In many cases, the bones were cut according to the shapes of the figures they depicted. In certain cases, figures were sculpted on clay which had a base of bone.

In Burdwan district a bone female statue, made of fossilized bone, reveals influence of Mathura School of Kushana period.⁵

Only recently a unique bone sculpture found at Chandraketurgh has come to our notice. Here a lion has been shown to be emerging from a lotus. The sculpture is unique. Winged lions indicate a North-Western influence. Ancient Bengal probably came under this influence in the later half of the first cent. C.E. It is interesting to note that few wooden images of fragmentary nature have recently been discovered from Chandraketurgh area. Two of these are in the collection of Sri B. Kaneria of Patna.

The earlier discussion indicates that the use of bone as a medium of sculpture was prevalent in ancient Bengal during the first few centuries C.E. This tradition probably came from very ancient times – prehistoric times when bone was used in the weapons and tools required in day to day life.

From the number or variety, the bone sculptures cannot be compared with the clay sculptures. We have earlier mentioned that in Bengal clay sculptures produced belonged to the proto-historic Bengal Age. But various excavated sculptures and artifacts indicate that this medium was not widely prevalent. The usage became widely prevalent in Maurya and Post-Mauryan age. Together with the terracotta artificats of the second and third cent. B.C.E. and the first cent C.E. has been found various pottery works of the northern polished black pottery (NBP) and small dyes and punch-marked coins. These were probably brought from the west. So the influence of the terracotta art of the ancient centres of U.P. on the Bengal terracotta sculpture cannot be ruled out.

Among the terracotta sculptures are three dimensional figures, images of gods and goddesses, vignettes of day to day life toys, jewellery, seals, matrix, impressions etc. The statues were either totally handmade or parts made by hand were attached to parts made in dies, or they were made from one or two diecasts. Parts thus made were glued to clay.

According to Stella Kramrisch the terracotta sculptures could be divided into. 1) the traditional or the primitive form consisting of handmade figures and 2) reflecting the contemporary trends.⁶ According to S.K. Saraswati, among the second group, some were of Mauryan Period but the majority of them were of Sunga style. Actually this is one of the regional styles in ancient Bengal, with marked Sunga influence. This style of producing sculptures have been found in excavated layers belonging to second – first cent B.C.E. or several centuries C.E., showing their popularity in Pre-Gupta period.

In this style the female figures had fleshy figures, rounded faces with slightly swollen cheeks, large expressive eyes, figures adorned with jewellery, fine garments, etc. Various stances and rhythms were found; transparent garments revealed beautifully sculpted bodies. The craftsmanship of the artists is revealed in clay toys and tablets with depiction of various sexual poses. Many sculptures and images of Buddha showed the influence of Kushana or Mathura influence. Some sculptures showed Gandhara style of art. Recent researches indicate that this influence is also present in some 3-dimensional images on tablets and seals. A few of these styles may have been imported from the north-west but no doubt made by local artists.

So it can be seen that though in ancient Bengal there was a unique style of art there was a considerable influence from outside as evident in images of various gods and goddesses of various religions. The importance of rice in an agricultural community is considerable. Holding a bunch of paddy, the image of a Dhanyajayi Devi done in Gandhara style can be seen in a seal. She is probably the oldest Dhanyalakshmi of Bengal. In a broken clay tablet can be seen the image of a lady standing with a child and a sitting lady on the top of a bunch of paddy. The child and the sitting lady are without clothes, their head ornaments having various ceremonial objects. This art form is most probably a depiction of the worship of a fertility Goddess. A standing female figure with two fishes probably depicts the first goddess. Also found are local deities depicting Yakshas and Nag – devatas. Some seals depict the Siva linga and a Susuniya cave painting depicts the chakra and the accompanying inscription also mentions Chakraswamy.

Various inscriptions mention Vedic rites. These are also indicated in sculptures. A few terracotta tablets show a winged figure with lotus in each hand. This is an expression of the sun god (*Rig Veda* I, 164, 46). This image is an embodiment of the life of the plant world

and also "the bird of the sky". During the Kushan age this image was depicted in Kushan dress with boots but the lotuses remain in the hands. In later images the Kushan dress is absent but the feet are there with the lotuses. The evolution of the image of Surya in ancient Bengal continued during the Pala Sena Age, the latter yielding our very familiar Surya image. The horse-drawn chariot of the sun god was not present in ancient Bengal but made its first appearance in the first cent B.C.E. – first cent. C.E.

A terracotta tablet discovered at Chandraketugarh shows a female figure with plants sprouting from her head dress.

At Basarh near Vaishati in Bihar was found a female figure with lotuses in each hands. Can we imagine this type of figure as the "Sri Goddess"? Does the presence of Surya and Sri in the frontiers of Bengal indicate any combined Surya – Sri religion?

Thus, it can be seen in the evolution of Indian sculpture that the influence of ancient Bengal cannot be ignored. Though the pre-Gupta Buddha images discovered here do not indicate any special artistic style, they are commendable for their workmanship and style. These either show the influence of Gandhara or Mathura.

The images found in metal coins in pre-Gupta Bengal may not be artistically of a high quality but clear and natural.

It is evident that the workmen were adept in making dies or moulds which should produce clear and distinct imagery.

Various seals (Nammudra) and tablets show the images of various figures and objects. In many cases these are quite artistic or realistic. Certain pictures or tablets are used as amulets. One such round tablet shows a peacock on top of a torana, the accompanying inscription and the pictures suggest that it was probably used as a guard against snake bite, the peacock being the slayer of snakes. The body of the peacock is shown relatively larger than the torana in which it is sitting. This was done to indicate the importance of peacock. Another such round tablet shows a female figure beside a well. The slender waisted figure is a recreation of the beautiful visions of beauty. The accompanying inscription. shows that this is an image of the Jiramba Yakshi. Being thirsty, she has come to drink water.

Such imagery derived from these dies on a clay tablet can also be seen described on patachitras. Here it may also be mentioned that there are many examples of such pictures on panels with accompanying inscriptions in ancient Indian Art. Evidences of the artistic tastes can also be found in potteries of various shapes and sizes made of stone, glass and terracotta and various jewellery. The precious stones used in the manufacture of garlands, bangles were probably imported from elsewhere. This indicates a cultural and commercial exchange between the ancient sites of civilizations. A mobile vibrant style with different

attitudes are the two main aspects of Indian classical art. Use of light and shade to enhance the contours was also another characteristic of classical art. This is named "bartana" in SilpaSastra. This is not evident in the art of Lal – Jal but the other two characteristics are quite evident in the clay sculptures of ancient Bengal.

In the Pundravardhana area, we have found from exploration several terracotta figurines of the late Centuries B.C.E. and early centuries C.E.

But we have some remarkable stone images. Noteworthy are the Surya images found at Kumarpur and Niyamatpur, and that of Vishnu found at Hankrail.

We may here refer to a broken image with a mace found at Silua in the Noakhali district. Attempts had been made to date the Vishnu image from Silua (Noakhali) to circa second – first century B.C.E. mainly on the basis of the palaeographic features of an inscription claimed to have occurred on the pedestal of the icon. At present, the inscription cannot be traced on the image. However, the figure carries a long mace placed on the ground which is an early feature in the iconology of Vishnu or Vasudeva. However, there is no reason to date it at such an early period. It can at best be dated to the pre-Gupta age, though some scholars think of a much later date.⁷

In North Bengal, terracotta figures were discovered from certain sites in the early period. We may particularly refer to figurines from Farakka in the Murshidabad District and the site has also yielded several types of ceramics, terracotta figures like (1) a mother goddess (2) mother and child, (3) male figures, etc. The terracotta figures are mostly of the ageless type. They are roughly datable to the pre-Gupta period.⁸

Sunga stratas have yielded terracotta Yakshinis, mother goddesses and toys having characteristic features and techniques. From the Kushan – Gupta period important types are: the goddess lakshmi standing on lotus, male figure mounted on a caparisoned horse in motion and moulded plaques depicting various animals, prominent being elephants and monkeys.⁹

Regarding the town planning and architecture of Pundravardhana it can be said that the area of Kotivarsha (Bangarh) indicates walled cities from at least the post Christian centuries and regular bricks were used for floors and walls but the superstructures were made of tiles supported by wooden cross beams. There could have been second storeyed buildings in the same part. But the ordinary people built thatched dwelling places.

For the third zone, data is meagre. The monastic site at Mainamati may have its beginning in the Gupta period but there is no evidence of its existence in the pre-Gupta phase.

It appears that pre-Gupta Bengal was quite active at certain areas at least in the area of building constructions and fine arts. Terracotta was the principal medium of plastic art. However, bone, stone and occasionally wood were also used.

So the development of the pre-Gupta art in Bengal was multifaceted. Architecture evolved with the changes in the economic conditions. The sources of inspiration for the artists were – (1) the agrarian – prosperity, providing jobs for them; and 2) demand for icons created by religious beliefs and rituals. However, the patronage not only came from the ruling or upper classes, but also from the lower classes, as indicated by the presence of clay jewellery, beads, etc. The pursuit and practice of the art of ancient Bengal was interlinked with the socio-economic and religious life.

References

- ¹B.N. Mukherjee, "Prachin Banger Simana, Itihaas", *Prabandha Sankalan: Prasanga Tamralipta*, ed. Kamal Kumar Kundu, 1993, pp. 3–4.
- ²G. Charles Pickard (ed.), *Larousse Encyclopaedia of Archaeology*, London, 1972, p. 150; E. Newton, *European Painting and Sculpture*, Harmondsworth, 1956, p. 62.
- ³Personal Communication - Rupendra. K. Chattopadhyay, Head, Department of Archaeology, University of Calcutta.
- ⁴S.K. Saraswati, *Architecture of Bengal*, Vol. I, 1976, p. 26.
- ⁵*South Asian Studies*, Vol.IX, 1993, p. 31.
- ⁶*Journal of the Indian Society of Oriental Art*, Vol..VII, p. 89.
- ⁷*Bangladesh District Gazetteers – Noakhali*, ed. N.I. Khan, Dhaka, 1977, p.82, (and the relevant plates).
- ⁸*Pratna – Samiksha*, No.II and III, pp. 193 ff.
- ⁹*Studies in Archaeology*, Ed. Ashok Dutta, p. 218; S.K. Mukherjee, *Early Terracotta Figurines from West Bengal*, 1991.

Effect of Mid-day Meal in Primary Education

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Abstract

With a view to obtain a clear picture about mid-day meal, a survey was conducted during Feb. - April 2006, covering about 30 schools in Bankura District. Towards this end, a questionnaire was designed so collecting the data. From the survey analysis it has been found that the percentage of attendance of the students increase in every school with an average 8-10 unregistered students. Again few unregistered children spend sometime with the already registered children in the school premises after completing their lunch.

Introduction

India's triple problem - mass illiteracy, pervasive poverty and child labour - are the results of over-population, mass unemployment, economic duress, social inequity and other infirmities (Narayana, 2003). Under such circumstance the programme of providing mid-day meal to primary school children in India (National Programme of Nutritional Support to Primary Education) was launched on the 15th August 1995. Under this programme cooked mid-day meals were to be provided in all government and government-aided schools within two years. According to the Global Feeding Report of the United Nations's World Food Programme, the aim of the programme was to improve enrolment and attendance and to take care of nutritional needs of children in grades 1 - 5. The state governments in the interim were allowed to distribute non-cooked grains instead of cooked meals. Until 2001, however, only the states of Kerala, Gujarat, Tamil Nadu, Madhya Pradesh, Chattisgarh, Orissa, Karnataka and Delhi were providing cooked meals under the scheme, while the remaining states and Union Territories continued to provide food grains (wheat or rice). In 2001, the Supreme Court of India converted the mid-day meal scheme into a legal entitlement wherein the state government were liable to provide nutritious cooked meals for all children in government and government-aided schools. Mid-day meal scheme was first introduced in the post-independence India in the state of Tamil Nadu as long back as 1956. Not only in Tamil Nadu, but in other states as well, mid-day meals have generated positive

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results since its introduction. A study conducted by Dreze and Goyal (2003) of three states - Chattisgarh, Rajasthan and Karnataka - finds a positive relationship between enrolments and attendance and provision of free meals. Another study noticed that the provision of mid-day meals is associated with a 50% reduction in the percentage of girls who are out of school (Dreze and Kingdon, 2001). Khera, 2001, noted the similar results in Rajasthan. However, most of the observers suggested that the mid-day meal scheme is an important step forward in improving both the education and health outcomes of children in India.

About 1.3 billion people of the world are living on less than a dollar per day and about 1 billion lack basic consumption requirements as per HDR (1999). In this situation in India, elementary education is neither compulsory nor free for all. Though considerable gain in literacy and education have been achieved since independence yet we still have a long way to go as far as achieving the goal of universal elementary education. The adult literacy rate in India was 61.3 percent in 2001 according to UNDP, Human Development report 2004, and inspite of 82.4 percent children in the 6-14 age group are enrolled in school in 2001-2002. According to World Bank Report 2003, 8 out of 10 of the world children live in developing countries that are characterized by poor quality of human capital and population pressure among a host of other problems. The importance of focusing on education as a carrier of empowerment is highlighted by the United Nations Millennium Summit in September 2000 where 2 out of 8 Millennium Development goals (MDGS) focused on education: first, all children to complete primary education by 2005, and second, to achieve gender equality at all levels of education by 2015. But inspite of these global acknowledgement about the pressing need for education, it has still not reached the desired levels of adequacy as the percentage of elementary education expenditure to GDP has never really exceeded beyond 2.06% which was the official figure for the fiscal year 2000-2001. For the fiscal year 2001-2002 and 2002-2003 it was 1.19% and 1.93% respectively. The constitution of India talks of primary education as a concurrent subject and states that its execution lies with the state government. Basically we know that mid-day meal was introduced with a view to supplement domestic meal, which as per survey conducted fell short in calorific value of 300 calories on an average for student coming from lower income group.

Objectives

The main purpose of this paper is to find out the present situation of education in West Bengal and further down to the district of Bankura, especially on primary education influenced by mid-day meal. The demographic and educational profile of West Bengal and the selected district Bankura is given in table-2. A survey was conducted during February-April 2006, covering about 30 schools. Mid-day meal (cooked) was introduced by Central/ State Govt. in Bankura district during last quarter of 2004 to January/February 2005.

Observation

A significant number of localities do not have elementary schools within the settlements. Many schools do not have full-fledged buildings. In several schools, there is shortage of teachers while others are over-crowded by children as many schools do not have sufficient space and proper seating arrangements. Quite a number of schools lack basic requirements like drinking water, toilet, urinals etc. During the course of our study we observed that the

meal was prepared and served in very unhygienic condition. Most of the schools did not have any specific place for cooking and most of the time all utensils were spread here and there. Again, for preparation of meal the fuel used was mostly wood. So huge smoke and bad smell covered the area during cooking time. As a matter of fact, it created a bad condition and it affected the academic atmosphere of the school. Meals were served in open space under the sun or in the verandah and even on the floor of classrooms. Although during February - March 2005 local panchayat provided fund @ Rs.5000/- to each school for construction of kitchen. Kitchens, as were being constructed were noticed to be very small in floor area and low height without any chimney and storage area. The kitchen so constructed would in no way reduce the smoke hazards. Most of the Head Masters argued that a lot of academic time was being wasted for washing and cleaning of classroom and verandahs and they also suggested that the whole scheme should be conducted by NGOs. Again, most of the parents, guardians expressed their opinion that quantity of rice should be enhanced from 100 gm to 200 gm per student per day and few guardians demanded that meal should be provided at night time also.

Effect of Mid-day Meal

From the survey report (table-1) it has been observed that percentage of attendance of the student increases in every schools and at the same time on an average 8 – 10 unregistered students come to the schools for mid-day meal. But one interesting fact is that few student came to the school before lunch and they spent sometime with the already registered students and tried to understand what was actually going on in the school. Again after completing lunch few students stayed in the school. In this way they learnt something from school.

Sl. No.	Name of primary school	No. of registered students	No. of unregistered students	Boys	Girls	No. of unregistered students before meal	No. of unregistered students after meal
1.	Hirbandh	122	10	63	59	4	9
2.	Tipan-Fulhari	81	15-20	41	40	2	13
3.	Dahala Daspara	114	15	59	55	6	11
4.	Radhanathpur	69	10-15	30	39	5	4
5.	Palasbani	55	15	38	17	0	11
6.	Jhabadanga	65	16	35	30	4	10
7.	Chalkigora	93	10-15	52	41	14	3
8.	Tilaboni	82	10-15	35	47	10	8
9.	Arjundaha	33	12-14	19	14	6	4

Sl. No.	Name of primary school	No. of registered students	No. of unregistered students	Boys	Girls	No. of unregistered students before meal	No. of unregistered students after meal
10.	Sialpahari	59	15-20	35	24	Nil	12
11.	Chatari Nimma Buniyadi	150	14-20	70	80	10	25
12.	Ghaskol	143	10-15	79	64	6-8	10-12

Table 1. Name of the primary schools, No. of registered/unregistered students, No. of boys and girls and No. of students before/after meal.

Table 2. The demographic and educational Profile of the State of West Bengal and the selected district Bankura is given below :

Sl. No.	Particulars	West Bengal	Bankura District
1	Area	88752 sq. km.	6882 sq. km.
2	Population	8.49 crore	0.34 crore
3	Male	44072648	1716461
	Female	407914547	1635289
	Total	84864105	3351750
4	Village Panchayats	3354	190
5	Blocks	341	22
6	Gram Samsads	44955	2486
7	Literacy Rate – 2001 census	Male - 77.58 % Female - 60.22 %	Male - 77.21 % Female - 49.80 %
8	No. of Primary School	50255	3456
9	No. of Upper Primary Schools	11440	518
10	No. of Teachers : Primary Upper Primary	152810 79468	9545 3614
11	Number of Children (between 6-14)	19023645	727009
12	Number of enrolled children	18126715	679663

Sources : Census 2001, DISE 2005

Conclusion

Since 1950s, India's planned efforts to end illiteracy have not met with adequate success. In India, schemes like the mid-day meal, payment of attendance allowance, supply of a few kilos of rice/wheat, supply of books/uniform etc. have only cosmetic effect and therefore India has not been able to tackle the problem of school dropout and wastage appreciably. Parents have viewed these measures as a pittance and hence the problem of mass illiteracy has eluded solution in low income family. In 2000, out of the estimated population of 1002 million the adult literacy rate was 44.3%. In 1994, about 36.7% of rural and 30.5% of urban population lived below the national poverty line. This is the prime cause for the persisting mass illiteracy (UNDP, 2000). It is needless to mention that India has taken large steps forward in the spread of primary education, as is evidenced by increasing enrolment rates for both boys and girls, as well as increasing literacy rates. Again from our observation it was found that few children come to the school before meal and they spend some time (not more than 30 minutes) in the school premises, so it is a positive site by which we can achieve our goal in future. We should develop more comprehensive strategy and intensive efforts for the effectiveness of the programme.

References

- Dreze, Jean and Geetha Gandhi Kingdon, (2001), "School Participation in Rural India", *Review of Development Studies*-5.
- Dreze, Jean and Aparajita Goyal, (2003), "Future of Mid-Day Meals", *Economic and Political Weekly*, November 1.
- Khera, Reetika, (2002), "Mid-Day Meals in Rajasthan", *The Hindu*, November 13.
- Narayana K.S., (2003), "Evolution of Writing, Spread of Literacy and Knowledge Revolution for Civilized World Order", *Perspectives in Education*, Vol.19, No. 1.
- World Bank, (2003), *Development in Practice: Primary Education in India*, New Delhi: Allied Publishing.
- UNDP, (1999), *Human Development Report*. New York: Oxford University Press.
- UNDP, (2000), *Human Development Report*. New York: Oxford University Press.
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Risk Based Pricing Using Asset Return Correlation

S. Alam

1. Introduction

The explosion of the credit-culture has been accompanied, and accelerated by a dramatic shift in public attitude. When Shakespeare's Polonius advised his son, "Neither a borrower nor a lender be", he was voicing the wisdom of his age. He reasoned that "loan often looses both itself and friend, and borrowing dulls the edge of husbandry." The age of Polonius has passed, and his advice, whatever its merits may be, has been drowned by the contrary opinion. He may have been wrong about the friends too. Banks continue to court borrowers who have caused them to lose money in the past! And if borrowing dulls the edge of husbandry, no one seems to mind. Any shame that was once attached to the use of credit has vanished.

In the era of financial liberalization, both credits as well as investment are equally important. In recent year, there is a huge competition in credit-investments market. Due to massive opportunities potential creditors always hunt for low interest rate; on the other hand, investors opt for potential creditors with their best price. Hence, credit-culture, credit theories and practice has been accelerated by a dramatic shift with sophisticated scientific tools and techniques.

One of the important problems for the investors is loan pricing. Risk based pricing (RBP) is must for an efficient portfolio manager. In evaluating financial investments the debt instruments are classified into different risk categories (known as rating), based on the likelihood of the default of issuing company and then pricing is done upon the credit qualities of several debt instrument. RPB is mainly done with respect to the rating quality of the creditors. RBP is a practice in the financial services industry to charge different interest rates on the same loan to different individuals/companies based on the creditworthiness and risk posed. It is to avoid penalizing those who are less likely to default & hence not subsidizing those who are more likely to default. RBP is new culture in Indian and there are many dimensions to explore this concept even at India financial market.

A rating is a judgment about the fundamental strengths and future prospects of a company in a relative framework. Basel accords (of Bank of International Settlements, Switzerland) attempt to standardize the definition of credit risk, market risk and operational risk. A rating process involves analysis of the past performance as well as an assessment of the future prospects of a company. The ratings are assigned after performing a detailed

analysis of business and financial risk of the issuer. But methodologies followed by rating agencies are still diverse. There is no universally accepted methodology for such an important process and many dimensions can easily be explored. All the big and good creditors play crucially at stock market. So their financial position and risk factors varies with the

ever-changing dynamical stock market. Thus a proxy should be included in credit rating process. But, Indian rating agencies have no mechanism to incorporate short-term stock market effect into the rating monitoring. In this paper an attempt is made to justify the fact that "asset correlation" is a good proxy of stock market in risk based pricing (RBP) in an efficient loan port folio.

2. Minimum Spanning Tree for Asset Correlation and Experimental Results

In his recent paper [1], Mantegna suggested the study the clustering of companies by using the correlation matrix of asset returns such that a simple transformation of the correlations into distances produces a connected graph. In the graph the nodes are the companies and the distances between them are obtained from the correlation coefficients and the clusters of companies are identified by means of the minimum spanning tree. It turned out that in this way the hierarchical structure of the financial market could be identified in accordance with the results obtained by an independent clustering method based on Potts super-paramagnetic transitions.

In another paper by Bonano et al [2], the time evolution of stock indices was studied and using appropriate time horizons and the minimum spanning tree clustering method identified significant changes in the world economy. The hierarchical structure explored by the minimum spanning tree also seemed to give information about the influential power of the companies. The network of influence was recently investigated by means of a time-dependent correlation method [3]. Some other attempts have been made to understand the structure of correlation matrices in a highly random setting using the theory of random matrices [4].

The minimum spanning tree determined from correlations between stock returns is called "asset tree". By studying the time evolution of the asset tree, Onnela et al [5] had shown that although the structure of the tree changes with time, the companies of the optimal Markowitz portfolio are always on its outer leaves. Papers [6-7] had shown that the minimum spanning tree, as a strongly pruned representative of asset correlation is found to be robust and descriptive of stock market events taking data from New York Stock market (NYSE). Here, in this paper the Minimum Spanning Tree was constructed of selective data taken from Indian stock market.

2.1 Methodology of Construction of MST for Asset Correlation

Let there are N assets with price $P_i(t)$ for asset i at time t . Then the logarithmic return of stock i is

$$r_i(t) = \ln P_i(t) - \ln P_i(t-1)$$

which for a certain consecutive sequence of trading days, forms the return vector r_i . In order to characterize the synchronous time evaluation of stocks, the following formula as found in [3] is used:

The equal time correlation coefficients between stocks i & j is

$$\rho_{ij}^t = \frac{\langle r_i r_j \rangle - \langle r_i \rangle \langle r_j \rangle}{\sqrt{(\langle r_i^2 \rangle - \langle r_i \rangle^2)(\langle r_j^2 \rangle - \langle r_j \rangle^2)}} \quad \text{where } -1 \leq \rho_{ij}^t \leq 1$$

and distance is defined by

$$d_{ij}^t = \sqrt{2(1 - \rho_{ij}^t)} \in D_{N \times N}^t \quad \text{where } 2 \geq d_{ij}^t \geq 0$$

The central vertex, representing the root of the tree T , is identified according to the following two criteria :

- *Vertex degree criterion*: this is the node with the highest vertex degree in the MST.
- *Weighted vertex degree criterion*: the node with highest some of those correlation coefficients that are associated with the incident edges of the vertex in the MST.

2.2 Experimental Results

The dataset used in this study consists of daily closure prices of 50 stocks of the NSE Nifty index, obtained from the National Stocks Exchange (NSE) website. The time period of this data extends from January 01, 2000 to December 31, 2005. This dataset constitutes prices over 1508 trading sessions in the specified 6 years period. Two sub-set data are prepared for experimental convenience:

- Set -I : considered 39 stocks for which prices for all 1508 trading sessions are available.
 Set - II : considered 49 stocks for which prices for the latest 150 trading sessions are available.

The correlation matrix and the associated distance matrix are computed separately for both these datasets. Using the Whitney algorithm, the MST's representing the asset trees for both the datasets have been constructed as shown in the Figures 2.1 and 2.2. The MST in Figure 2.1 consists of 39 nodes with 38 edges connecting them. Similarly, the MST in Figure 2.2 consists of 49 nodes with 48 edges connecting them.

For the purpose of visualizing these asset trees, the script representing the central vertex of each one of these trees is identified using the following two criteria:

- Using the vertex degree criterion
 - Data set^I : SBIN with degree 12.
 - Data set^{II} : SBIN with degree 12.

- Using the weighted vertex degree criterion
 - Data set^I : SBIN with degree 13.6.
 - Data set^{II} : SBIN with degree 7.91.

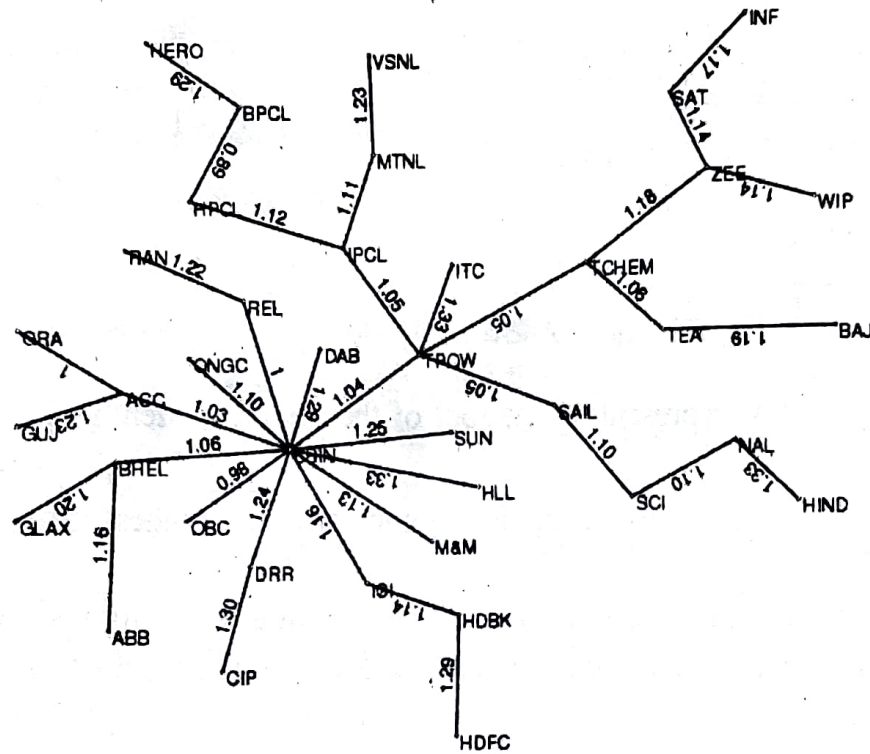


Figure 2.1: Asset Tree for Data set I

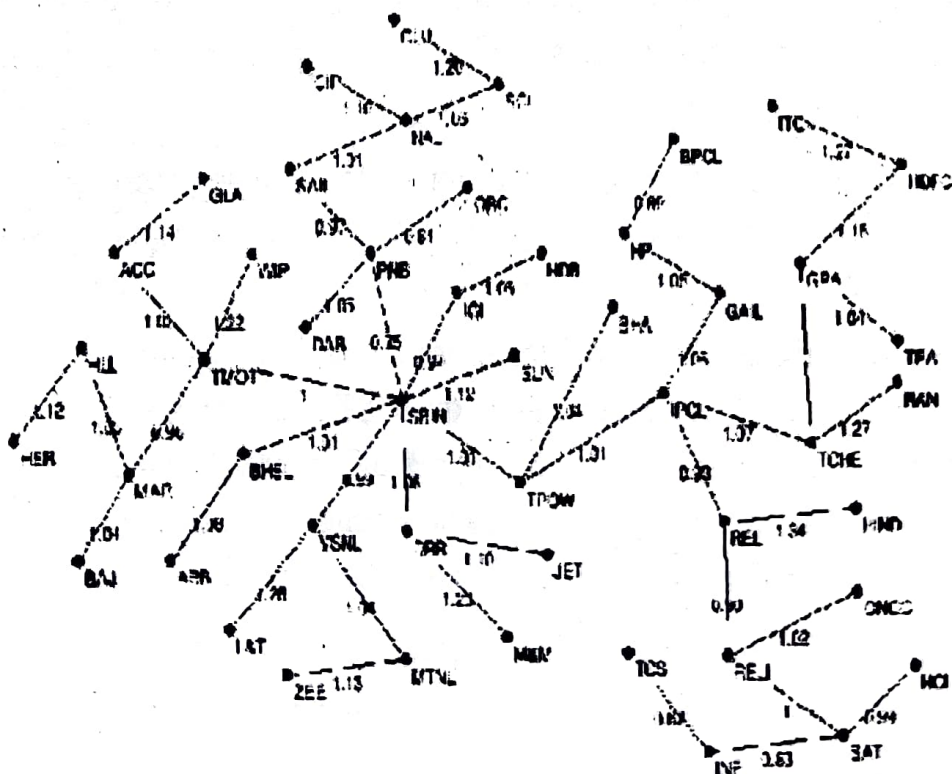


Figure 2.2: Asset Tree for Data set II

3. Risk based pricing (RBP) and Portfolio Management

Risk based pricing is a practice in the financial services industry to *charge different interest rates on the same loan to different individuals/companies based on the creditworthiness* and risk posed. It is to avoid penalizing those who are less likely to default & hence not subsidizing those who are more likely to default.

3.1 Methodology & Formula Used for RPB Calculation

Risk charge is charge for expected losses & unexpected losses and is calculated by the following formula

$$\text{Risk charge (RC)} = \text{Expected Loss charge} + \text{Return on Capital at Risk (CAR)}$$

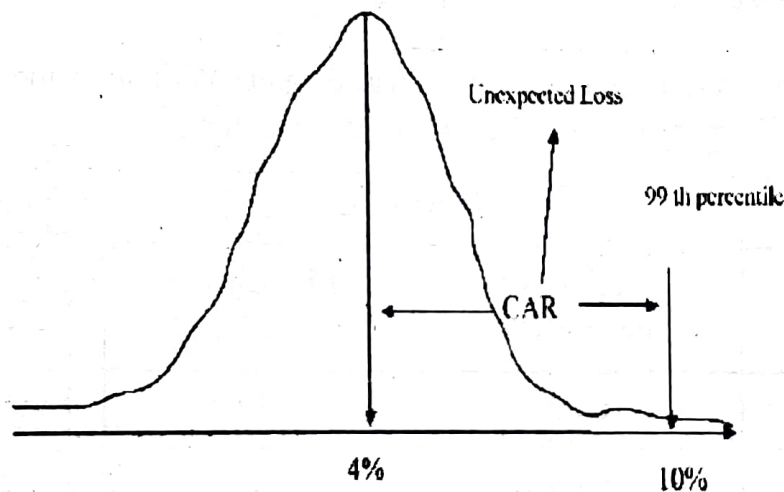


Figure-3.1

An expected loss is the long-run average losses and is calculated by the formula:

$$\text{Expected loss charge} = \text{Default rate} * (1 - \text{Recovery rate})$$

Unexpected loss is the maximum potential loss at given confidence level. Unexpected loss necessitates allocation of capital, which is assumed to be invested in risk-free securities. The opportunity cost of the capital thus needs to be priced adequately. This is done by multiplying the capital with a factor called hurdle rate.

$$\text{Return on CAR} = \text{Hurdle rate} * \text{Capital at risk}$$

$$\text{Capital at Risk} = n * \text{Standard Deviation of default rate} * (1 - \text{Recovery rate})$$

(n = 3 for 99.99%)

$$\text{Hurdle rate} = \text{Return on Net worth} / (1 - \text{tax rate}) - \text{risk-free rate}$$

3.2 Historical Data : Default Distribution

Historical data of default distributions are almost normal. Available default distribution as

reported by Indian rating agency is as follows :

Table – 3.1

Rating Categories	Mean of Default	SD of Default
AA	1.25%	2.15%
A	3.58%	4.22%
BBB	8.34%	7.95%
B	18.69%	8.23%

For simplicity a constant Recovery rate (90%) and Hurdle rate (10%) are assumed through out the calculation.

Based on the above formula and historical default distribution the following prices (Table – 3.2) of different categories of instruments are found.

Table – 3.2

Rating Categories	Primary Loan Int. (PLI)	Risk Charge (RC)	Int. Rate (IR) = PLI + RC
AA	10.00%	0.29%	10.29%
A	10.00%	1.00%	11.00%
BBB	10.00%	3.11%	13.11%
B	10.00%	4.31%	14.31%

3.3 Diversification in Portfolio and Change in Risk Charge

Here, an attempt is taken to ascertain the well-known result that proper diversification in a portfolio leads to the lower risk charge. For this purpose the risk charge starting from a small portfolio of size 1 to large portfolio of size 25 is calculated. The above risk calculation is done twice; firstly assuming there is no correlation (independent) and secondly accounting asset correlation based on their stock prices.

Figure-3.2 and Figure-3.3 graphically represents the effect of diversification on risk charge. These graphs also show that risk charge does not solely depend on portfolio diversification; it depends upon asset correlation also.

Figure – 3.3 defects more insights about diversification that both horizontal and vertical diversification needed. Table - 3.3 numerically depicts the effect of diversification on RPB.

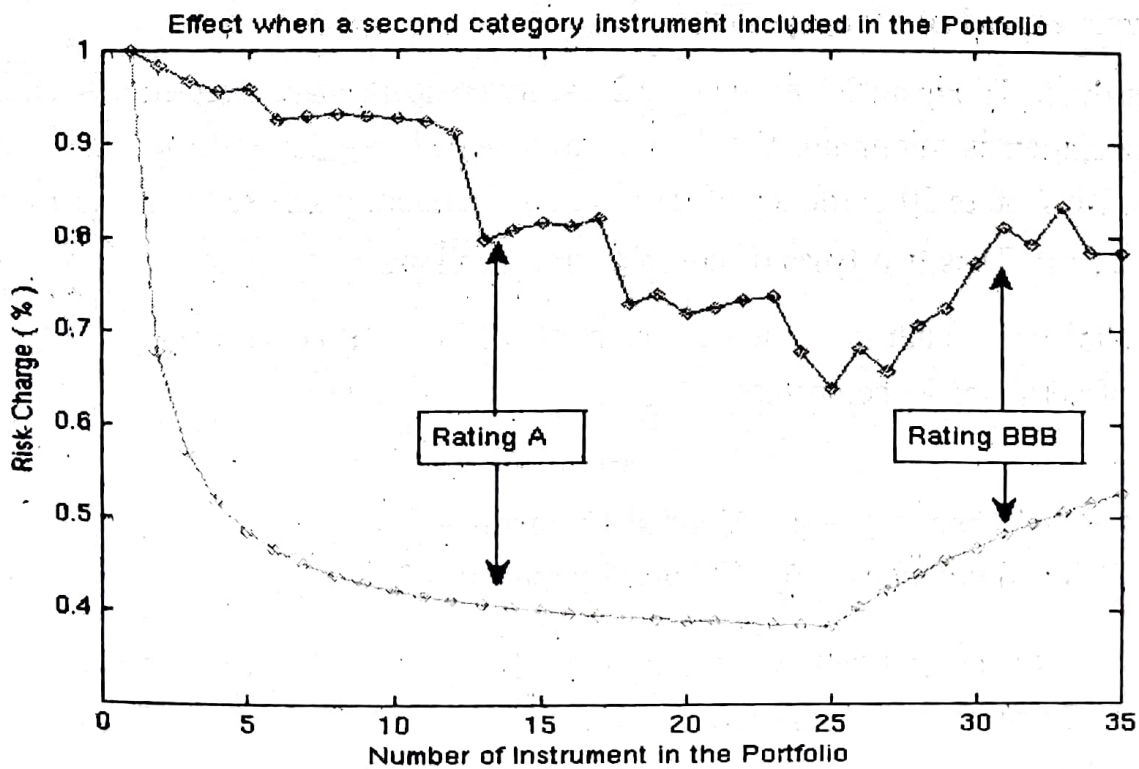
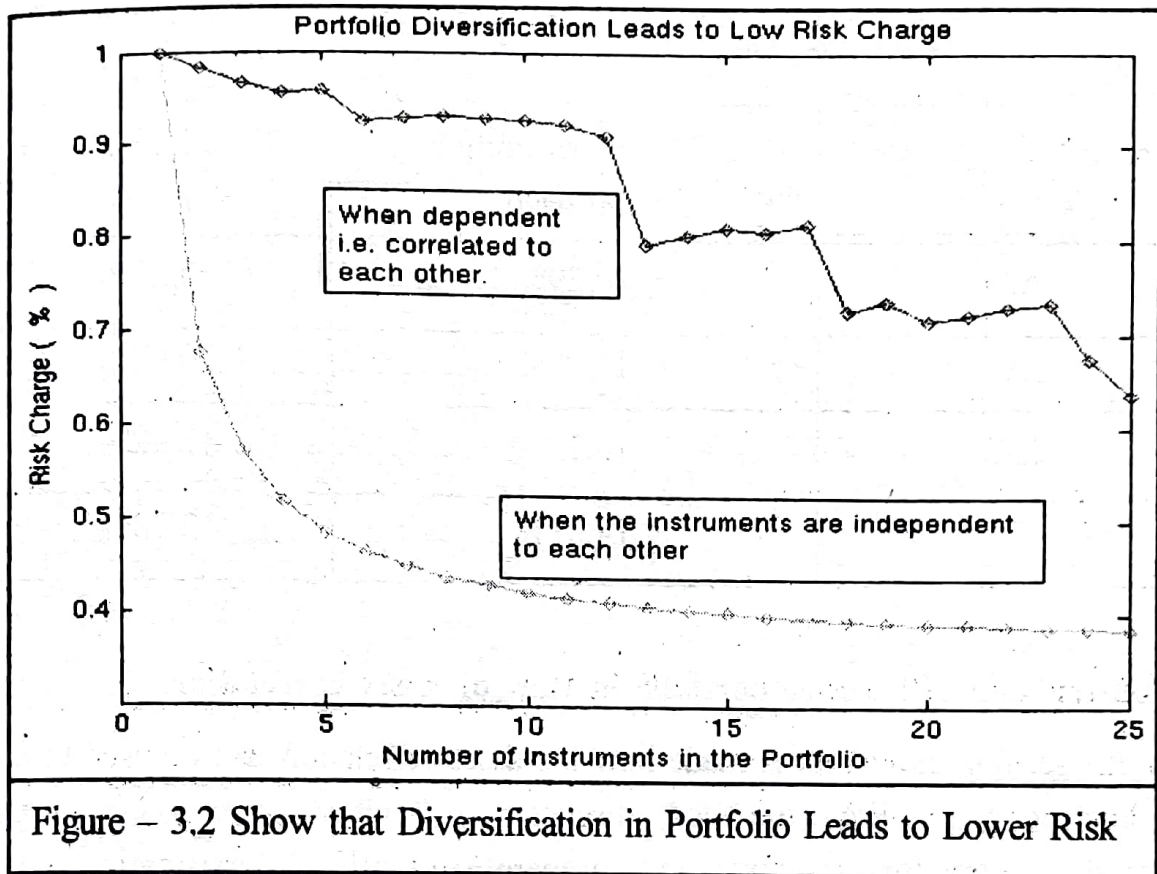


Table – 3.3

Rating Categories	RPB without portfolio approach	RPB with portfolio approach
AA	10.29%	10.23%
A	11.00%	10.62%
BBB	13.11%	11.98%
B	14.31%	13.28%

3.4 Construction of a better portfolio in view of Asset correlation

In this section an attempt is made how the asset correlation can be used to construct a good loan portfolio. From the above discussion it is clear that a good loan portfolio manager always opt for less correlated company. Actually, diversification among the uncorrelated companies leads to minimum portfolio risk. But due to greasing pressure of macro-economic of global economy uncorrelated companies are hardly to find. Thus good portfolio manages should always look for minimum asset correlation and corresponding MST for a dynamic expand of his/her portfolio.

From the MST Figure 2.1 & Figure 2.2 twenty companies are selected in such a way so that correlation is minimum. Let the portfolio Manager-A has selected these twenty companies. Now other 50 portfolios of same size are randomly selected (without bothering asset correlation). Thus two types of portfolio are as follows :

Portfolio A : [is built from the view point of MST (asset) correlation]

Size of portfolio: 20 companies.

It consists of

AA Rated Company – 4 , A Rated Company - 7

BBB Rated company – 6, BB Rated company – 3

Portfolio B : [is built randomly without any consideration of MST (asset correlation)]

Size of portfolio: 20 companies.

It consist 20 randomly selected companies form the data set.

Now RPB for different loans of different rating category is calculated and compare the performance of Portfolio-A with other 50 randomly chosen portfolio. These comparisons are presented graphically in Figure- 3.4.

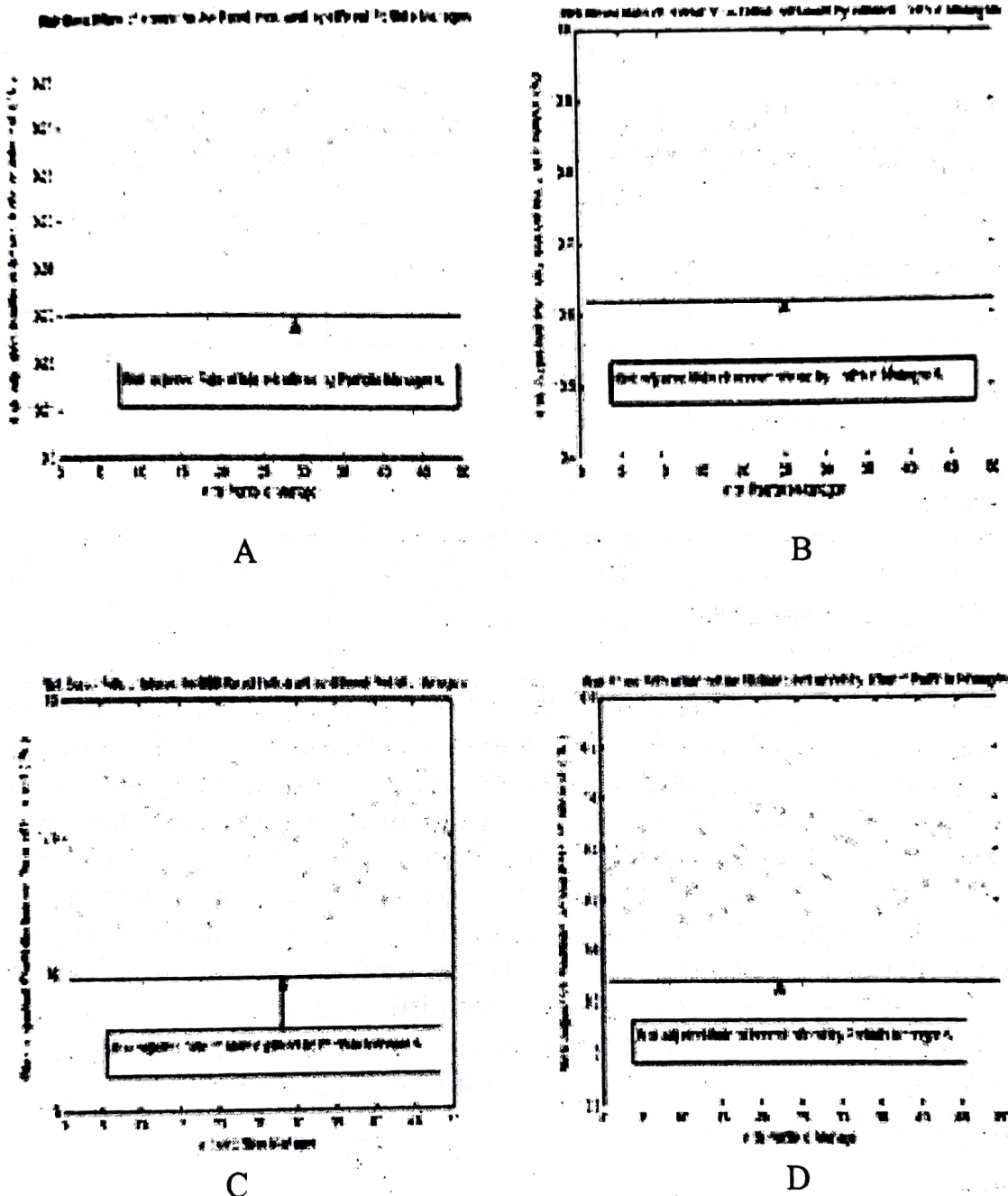


Figure – 3.4 : RPB offered by different managers; A) shows the RPB for AA rated instruments, B) shows the RPB for A rated instruments, C) shows the RPB for BBB rated instruments and D) shows the RPB for BB rated instruments.

3.5 Discussion and conclusions

In this paper a portfolio is constructed in view of asset correlation (MST) and comparison was made with respect to fifty randomly generated portfolios in terms of Risk Based Price (RBP). It is observed that portfolio constructed in view of asset correlation in general performs much better than other randomly (where asset correlation has not been considered) generated portfolios. All though there are apparently some anomalies have been noted for the 6th randomly generated portfolio (Figure 3.4) and 45th randomly generated portfolio (Figure 3.7). Let's give a close look two these portfolios. For these purpose the RPB of 6th, 45th and the so-called good portfolio is written in a comprehensive manner in table – 3.4.

Table – 3.4 Risk Based Price Rate of Interest of different portfolios

Portfolio	AA - Rated Instrument	A - Rated Instrument	BBB - Rated Instrument	BB - Rated Instrument
The so-called good portfolio (i.e. the portfolio has constructed in consideration of asset correlation)	10.23	10.62	11.98	13.28
6 th Randomly generated portfolio (asset correlation was not considered in its construction)	10.22	10.87	12.71	14.09
45 th Randomly (asset correlation was not considered in its construction)	10.28	10.89	12.73	13.21

Form table – 3.4 it apparently seems that 6th randomly generated portfolio is better as it is offering low interest rate to AA –rated instruments with respected to the so-called good portfolio. But if we observe carefully then it's clear that the 6th randomly generated portfolio is only beating the so-called good portfolio in terms of interest rate only for AA - rated instruments; where as it's charging much more for A - rated, BBB - rated and BB-rated instruments. This is because of the fact that 6th randomly generated portfolio is well diversified with respect to AA- rated instrument; it is not balanced at the time of diversification in terms of other rating instruments. The similar argument can be given for 45th portfolio where it is over diversified with respect to BB rated instrument and that's why it can offer low interest rate for BB rated instruments. Thus we may conclude that in general asset correlation and corresponding MST is a good proxy of stock market for dynamic risk based price in credit risk practice.

References

- [1] L.Kullmann, J.Kertész. and R. N. Mantegna, Physica A 287,412 (2000).
- [2] G. Bonanno, N. Vandewalle and R. N. Mantegna, Phys. Rev. E 62 , R 7615(2000).
- [3] L. Kullmann , J. Kertész and K. Kaski , Preprint available at condmat/0203278(2002).
- [4] L.Laloux et al., Phys. Rev.Lett.83,1467(1999); V. Plerou et al., preprint available at cond-mat/9902283(1999).
- [5] J.P. Onnela, A. Chakravorty ,K. Kaski, and J. Kertesz, "Dynamic asset trees and portfolio analysis",Eur.Phys.J.B.30,pp.285-288,2002 .
- [6] G. Bonanno, G. Caldarelli, F.Lillo, S. Micciche, N. Vandewalle, and R. N. Mantegna, "Networks of equities in financial markets", Eur . Phys. J. B, 38, pp.363-371,2004.
- [7] J. P. Onnela, K. Kaski, and J. Kertesz, "Clustering and information in correlation based financial networks", Eur. Phys. J.B. 38 353-362,2004.

A Study on the Effects of General Anxiety and Academic Motivation on the Academic Achievement of Secondary School Students in History Following Combined Programmed Instructional Strategy and Conventional Teaching Strategy

Gouri Kumar Nanda

Abstract

The study was conducted to determine some specific aspects regarding the influence of general anxiety and academic motivation on academic achievement following combined programmed instructional strategy and conventional teaching strategy to know about which method is effective for teaching learning process.

The objectives of the present paper is

- 1. to use the programmed instructional method and conventional teaching method in the light of history for class IX of secondary school.*
- 2. to know the effect of general anxiety on academic achievement and academic motivation on academic achievement through programmed instruction and conventional teaching strategy.*
- 3. to compare the relative effectiveness of two strategies of instruction in general anxiety and academic motivation.*

A total of 100 samples of IX grade students, 59 boys and 41 girls were selected for the study. The Tools used were: General Anxiety questionnaire, Academic Motivation questionnaire, Academic Achievement test, Conventional teaching method, Programmed Instructional teaching method.

Findings suggest that the Programmed Instructional strategy is better than the Conventional teaching strategy used in present secondary schools.

Introduction

Teaching is not just to sit on an armchair with a cup of tea in hand to sip. It is an art and skill to be learnt.

In Education, methodology plays a vital role in enhancing the teaching learning process. Teaching strategy is a generalized plan for a lesson, which includes structure desired learner behaviour in terms of goals, instruction and an outline of planned tactics necessary to implement the strategy. In the words of I.K. Davis, "strategies are broad methods of teaching." Explosion of technology shifted the information from old knowledge to new sphere of education consequently change is marked in every aspect of life so also in teaching.

During 20th century all the older methods of education were realized as insufficient and inadequate to meet the demands of life which came to acquire a complicated pattern owing

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to tremendous scientific development. There are various conventional methods developed, but these methods could not meet the 20th century requirements. Such a requirement had led to the development of modern educational technology. The present study highlighted the effect of general anxiety and academic motivation on academic achievement of secondary school students in History combined programmed instructional strategy and conventional teaching strategy.

Objectives of the Study

The study considered with the following objectives.

- 1) To use the programmed instructional method in the light of History for class IX of secondary school as one of the strategy of Instruction.
- 2) To use the conventional teaching method (Herbartian Method) in the light of History for class IX of secondary schools as another strategy of instruction.
- 3) To know the effect of General Anxiety on Academic Achievement through programmed instruction and conventional teaching strategy.
- 4) To know the effect of Academic Motivation on Academic Achievement through programmed instruction and conventional teaching strategy.
- 5) To compare the relative effectiveness of two strategies of instruction in General Anxiety and Academic Motivation.

Sample

The investigator had selected 100 sample of IX grade students from both the sexes consist of 59 Boys and 41 Girls from two Oriya medium school situated in Balasore district of Orissa. Again out of 100 students 50 students are taken as experimental group and next 50 as control group.

Tools Used

The researcher used the following tools for the present study.

- a) General Anxiety questionnaire (MGAQ) developed by Prof. D. Mukhopadhyaya.
- b) Academic Motivation Questionnaire (DAMT) developed by Prof. D. Mukhopadhyay.
- c) Academic Achievement Test (AAT) developed by the researcher.
- d) Five lessons plans prepared by the researcher as followed to the Herbartian steps.
- e) Lesson plan prepared by researcher in programmed instructional method combination of both linear and branching styles.

Statement of the Null Hypotheses

The following null hypotheses would tested for the present study :

- H₀₁- There exists no significant difference between boys and girls in their general anxiety.
- H₀₂- There exists no significant difference between boys taught by programmed instructional method and boys taught by conventional method in their general anxiety.

- H₀₃- There exists no significant difference between girls taught by programmed instructional method and girls taught by conventional method in their general anxiety.
- H₀₄- There exists no significant difference between the experimental group and control group students in their general anxiety.
- H₀₅- There exists no significant difference between boys and girls in their academic motivation.
- H₀₆- There exists no significant difference between boys taught by programmed instructional method and boys taught by conventional method in their academic motivation.
- H₀₇- There exists no significant difference between girls taught by programmed instructional method and girls taught by conventional method in their academic motivation.
- H₀₈- There exists no significant difference between the experimental group and control group students in their academic motivation
- H₀₉- The boys taught through programmed instructional method would show no significant difference than the boys by conventional method in their academic achievement.
- H₀₁₀- The girls taught through programmed instructional method would show no significant difference than the Girls taught by conventional method in their academic achievement.
- H₀₁₁- The students (boys + girls) taught through programmed instructional method would show no significant difference than the students (boys + girls) taught by conventional method in their academic achievement.
- H₀₁₂- There exists no significant difference between the pre-test and post-test academic achievement of students taught by programmed instructional method.
- H₀₁₃- There exists no significant difference between the pre-test and post-test Academic achievement of students taught by conventional method.
- H₀₁₄- There exists no significant relationship between general anxiety and academic motivation of the students taught by programmed instructional method.
- H₀₁₅- There exists no significant relationship between general anxiety and academic achievement of the students taught by programmed instructional method.
- H₀₁₆- There exists no significant relationship between academic motivation and academic achievement of the students taught by programmed instructional method.
- H₀₁₇- There exists no significant relationship between general anxiety and academic motivation of the students taught by conventional method.
- H₀₁₈- There exists no significant relationship between general anxiety and academic achievement of the students taught by conventional method.
- H₀₁₉- There exists no significant relationship between academic motivation and academic achievement of the students taught by conventional method.

Interpretation & Discussion

The calculated value of ($t = 5.29$) for assessing the mean significant difference between boys & girls in their general anxiety was found to be significant at the 0.05 level of confidence. Hence H_{01} was rejected. The calculated value of ($t = 1.31$) for assessing mean significant difference between boys taught by programmed Instructional Method (PIM) and boys taught by conventional method (CM) in their general anxiety was found not significant at 0.05 level of confidence. Hence H_{02} was accepted. The value of ($t = 0.31$) for assessing mean significant difference between girls taught by PIM and taught by CM in their general anxiety was not significant at 0.05 level. Hence H_{03} was accepted. The calculated value of ($t = 1.01$) was not significant at 0.05 level of confidence it indicates that the H_{04} was accepted i.e. there exists no significant difference between the experimental group and control groups students in their general anxiety was accepted. The calculated value of ($t = 2.89$) for assessing mean significant difference between boys and girls in their academic motivation was found to be significant at 0.05 level. Hence H_{05} was rejected. The calculate value of ($t = 2.54$) for assessing mean significant difference between boys taught by PIM and boys taught by CM in their academic motivation was significant at 0.05 level of confidence. Hence H_{06} was rejected. The value of ($t = 2.15$) for assessing significant difference of mean between girls taught by PIM and girls taught by CM in their academic motivation was significant at 0.05 level. Hence H_{07} was rejected. The calculated value of ($t = 1.42$) for assessing the mean significant difference between experimental group and control group students in their academic motivation was not significant at 0.05 level. Hence H_{08} was accepted. The calculated value of ($t = 0.50$) for assessing the mean significant difference between boys taught through PIM and boys by CM in their academic achievement was not significant at 0.05 level of confidence. Hence H_{09} was accepted. The value of ($t = 5.37$) for assessing mean significant difference between girls taught through PIM and girls taught through CM in their academic motivation was found to be significant at 0.05 level. Hence H_{010} was rejected. The calculatd value of ($t = 2.58$) for assessing mean significant difference between (Boys + Girls) taught through PIM and (Boys + Girls) taught by CM in their academic achievement was found to be significant at 0.05 level. Hence H_{011} was rejected. The calculated value of ($t = 18.9$) for assessing mean significant difference between pre-test and post-test academic achievement of students taught by PIM was significant at 0.05 level of confidence. Hence H_{012} was rejected. The calculated value ($t = 8.56$) for assessing mean significant difference between pre-test and post-test academic achievement of students taught by CM was significant at 0.05 level of confidence. Hence H_{013} was rejected. The calculated value of ($r = 0.14$, $r = 0.18$) for assessing the significant relationship between general anxiety and academic motivation of students taught by PIM or CM was not significant at 0.05 level. Hence H_{014} and H_{017} were accepted. The value of ($r = 0.08$, $r = 0.20$) for assessing the significant relationship between general anxiety and academic achievement of students taught by PIM or CM was not significant at 0.05 level of confidence, Hence H_{015} and H_{018} were accepted. The value of ($r = 0.27$, $r = 0.06$) for assessing the significant relationship between academic motivation and academic achievement of students taught by PIM or CM was not significant at 0.05 level. Hence H_{016} and H_{019} were accepted.

Recommendations of the Study

Some recommendations for further study were :

1. The present experiment may be replicated in a number of schools to observe whether the Programmed Institutional Method (PIM) is free from school variance.
2. The present study may be replicated by different teachers to observe whether the PIM is free from teacher variance.
3. The same experiment may be replicated in a number of schools on different subjects.
4. Sophisticated statistical design may be employed to generalize the findings.
5. More research oriented studies on PIM using CAI could be done for fresh statistical interpretations.

Conclusion

The researcher wanted to compare and determine experimentally, the relative effectiveness of programmed instructional strategy and conventional teaching strategy, by studying the effect of general anxiety and academic motivation on academic achievement in History at secondary level of education. It is true that the researcher took all necessary steps to conduct and standardize the test but yet he had to work under certain limitations. In spite of these limitations the present study would be successful if more research oriented studies on programmed instructional method using CAI could be done with fresh statistical interpretations. Finally, the researcher concludes that the programmed instructional strategy was better than the conventional teaching strategy used in the present secondary schools.

References

- Aggarwal, J.C. *Essential of Educational Technology : Teaching Learning Innovation in Education*. 3rd ed. New Delhi : Vikas Publishing House Pvt. Ltd., 2000.
- Best J.W. and Khan, J.V. *Research in Education*. 7th ed. New Delhi : Prentice Hall of India, 2002.
- Buch, M.B. *Fifth Survey of Research in Education*. Vol. II. New Delhi : NCERT, 1991.
- Dececco, J.P. *Educational Technology*. New York : Holt Rinchart and Winston, 1964.
- Garrett, H.E. and Woodworth, R.S. *Statistics in Psychology and Education*. New York : David Mckay company Inc., 1981.
- Hillgard, E.R. and Bower, G.H. *Theories of Learning*. Appleton Century Crafts, 1966.
- Mangal, S.K. *Advance Educational Psychology*. New Delhi : Prentice Hall of India Pvt. Ltd., 1999.

- D. Mukhopadhyaya. *A Cross-sectional Study on the Effect of Academic Motivation and Scientific Attitudes on Scientific Aptitude of the Students*. Unpublished Ph. D. Thesis in Education, Kalyani University, 1989.
- Rao, U. *Educational Technology*. Mumbai : Himalaya Publishing House, 1991.
- Van Dalen, D.B. *Understanding Educational Research. An Introduction*. 3rd ed. New York : McGraw Hill Book Company, 1973.
- Entwistle, N.J. "Academic Motivation and School Attainment". *British Journal of Educational Psychology*. Vol. 38, June 1968.
- Indian Educational Review*. Vols. 34-35. NCERT, 1999.
- Indian Psychological Review*. Agra Psychological Research Cell, Tiwarikothi, 2003.
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Parents' Encouragement to Child's Education and Academic Motivation in Relation to Some Demographic Variables and Their Influences on Ninth Grade Students' Academic Achievement

Chinmayee Nanda

Abstract

Academic Achievement is a highly valuable concept in our society. It stimulates further learning. Academic Achievement has multiple importances in student's life, and also in our society for achieving status as well as for upward social mobility. Other than cognitive some non-cognitive correlates of Academic Achievement are worthy to mention: class room/school ambience, academic self-concept/determination to learn further on the part of the child and adult's/parents pressure, pushes, encouragement in the academic affairs of the child are found important. "Parents' and families' encouragement is helpful for maximizing students' learning". In this backdrop, present researcher intended to study the nature of parental encouragement and academic motivation in Indian context of secondary school children. the study was conduct on 400 children, 200 boys and 200 girls. Data were collected by using two tests. They are parental concern for child's educational inventory and academic motivation test. Findings identified are that parental encouragement to child's education and Academic Motivation produce significant influence for promotion of students learning.

Introduction

'Education for All' speaks for providing educational services to all according to one's ability, capacity to learn, interests, needs etc. in the changing society now influenced by postmodern information explosion and attended globalization. Taking cognizance of all these issues, learning should be maximized and barriers to learning rate are to be identified and arrested from the individual's process of learning, as we live in a 'learning society' continuous learning is our survival instinct.

Ecological psychology has greatly influenced educational behaviour of the child. Not only the psycho-emotional climate of home or classroom/school but also the conditions operating during teaching-learning episode and those perceived by the individual learners have been the pointers to students' learning. Thus phenomenological solutions have been also the players.

A child is continuously encouraged by his parents. So parental encouragement may influence the characteristics of a child very greatly to his behaviour, and to form good habits, attitude and motivation. For the establishment of motivation, it would be related to his/her parental support and help. In this respect child's parental encouragement plays a most important role.

Academic achievement and that should be taken care of for their development for promotion of student learning mostly indicated by marks or grades which bear special value, though differently to the clients as well to the stakeholders. Ultimate aim should be to attain the highest goal of education through our journey beginning at 'learning to know' and 'learning to do' through 'learning to live together'.

Objectives of the Present Study

- I To find out gender difference in the (a) measure of parental encouragement to child's education (PECE) and (b) measure of academic motivation of 9th grade students.
- II To study variation in (a) in the measure of PECE and (b) measure of academic motivation with variation in 9th grade student area of residence (rural and urban).
- III To investigate possible influence of (a) PECE (b) Academic motivation on 9th grade students academic achievement (taking on independent variable at a time).

Statement of the Hypothesis

- H₁. There will be significant mean difference in the measure of PECE of 9th grade students belonging to rural and urban areas.
- H₂. There will be significant mean difference between 9th grade urban boys and girls in the measure of PECE.
- H₃. There will be significant mean difference between 9th grade rural boys and girls in the measure of PECE.
- H₄. There will be significant mean difference in the measure of academic motivation of 9th grade students belonging to rural and urban areas.
- H₅. There will be significant mean difference between 9th grade urban boys and girls in the measure of academic motivation.
- H₆. There will be significant mean difference between 9th grade rural boys and girls in the measures of academic motivation.
- H₇. The urban 9th grade students belonging to the high and low groups (on the basis of measure of PECE) will differ significantly in mean academic achievement.
- H₈. The rural 9th grade students belonging to the high and low groups (on the basis of measure of PECE) will differ significantly in mean academic achievement.
- H₉. The urban 9th grade students belonging to the high and low groups (on the basis of measure of academic motivation) will differ significantly in mean academic achievement.
- H₁₀. The rural 9th grade students belonging to the high and low groups (on the basis of measure of Academic motivation) will differ significantly in mean academic achievement.

Sample

The present study was on 400 pupils (Boys = 200, Girls = 200) drawn from urban and rural areas. The stratified random sampling technique has been used in the study. The

sample has been considered adequate. The investigator took precautions to arrest urban sampling error. The investigator selected at random four schools two each from urban and rural regions. The sample includes both boys and girls students.

Tools Used

The investigator used the following tools for the measurement of the variables under study.

- a) Parental concern for child's Education Inventory – (Biswas - 1990).
- b) Academic Motivation test-(DAMT-1989)

Results and Discussion

It was found that mean score of urban students was higher than that of rural students on the parental encouragement of child's education. The difference was statistically significant at 0.05 level ($t = 4.89$). As far as the case of urban boys and girls is concerned, there was no significant difference between them at the ($t = 1.04$) but here mean score of girls were higher than that of boys. In case of rural boys and girls again girls mean score was higher than that of boys however there was no significant difference between their score at the ($t=1.19$) on the parental encouragement. The mean score of urban & rural in measure of Academic motivation, urban student was higher than that of rural students but here no significant difference was found. The mean score of urban girls was higher than urban boys and in rural also rural girls score was higher than rural boys and above both the cases no significant mean difference among the scores at the ($t = .96$) and ($t = .95$). The mean score of parental encouragement for child's education among urban higher group and low group shows that the score of urban high group was higher than that of urban low group and it was statistically significant at 0.05 level ($t = 12.21$). In case of rural high group and low group shows that the score of rural high group was higher than that of rural low group and it was statistically significant at 0.05 level ($t = 8.19$). The mean score of Academic motivation among urban high group and low group shows that the score of urban high group was higher than that of urban low group and it was statistically significant at the ($t = 11.55$). And lastly, it was seen that among the score of rural high group and low group, rural high group score was higher than rural low group and it was statistically significant at the 0.05 level ($t = 9.38$).

Conclusion

On the basis of the result of the present study following conclusions were drawn :-

- ☉ IX grade boys and girls do not differ in their parental encouragement.
- ☉ IX grade boys and girls do not differ in their academic motivation.
- ☉ Both the variables namely parental encouragement to child's education and academic motivation produce significant influence for promotion of students' learning.

References

- Atkinson, L. W. and Feather, N.T.A *Theory of Achievement Motivation*. New York: John Willey, 1966.

- Biswas, P.C. "Parental Concern for Child's Education". *Education (PECE)*. Dept. of Education, Kalyani University, 1990.
- Best, John, W. *Research in Education*. New Delhi: Prentice Hall of India Private Limited, 2001.
- Cattell, R.B. and Butcher, H.J. "The Prediction of Achievement and Creativity". Indian polis Bobbs-Merrill, 1958.
- Crow, L.D. and Crow, A. *Educational Psychology*. New Delhi : Eurasic publishing House Private Limited, 1999.
- Garrett, H. E. *Statistics in Education and Psychology*. 4th ed. Bombay: Vakil Feffer and Simons Private Limited, 1967.
- Guilford, J.P. *Fundamental of Statistics in Psychology and Education*. 3rd ed. New York : McGraw-Hill Book Company Inc., 1950.
- Mishra, K.S. "Influence of Children's Perception of Parental Child-Rearing Behaviours on Their Academic Achievement". *Indian Educational Review*, 16(1), 1981.
- Skinner, Charles E. *Educational Psychology*. 4th ed. New York University, Southern Illinois University, Prentice Hall of India private Limited, New Delhi, 1974.
- Van Dalen, D.B. *Understanding Educational Research : An Introduction*. 3rd ed. New York : McGraw Hill Book Company, 1973.
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Assistive Technology in Education of Visually Impaired Children with Special Reference To Indian Perspective

Ashis Kumar Debnath

Abstract

Assistive technology helps the visually impaired students in learning by compensating their special needs. This compensation has been done by using several assistive devices, methods and techniques. The visually impaired students have to face difficulties in their learning for not using vision as a channel of getting information. Partial visually impaired students can use visual displays which are close-circuit Television, personal computer, etc. But severe or fully blind students have to use tactile displays which include simple paper Braille, Taylor Frame, paperless Braille, Braille-Computer, Brailles, etc. Sometimes they use auditory displays and Multiple displays in their education. This article has also emphasized on the importance of assistive technology in education, especially in plus curriculum of visually impaired students. But all the assistive devices which have been arranged in this article are not used in all the institutes of India. At last, the barriers to use assistive technology devices in education and some suggestions have been discussed.

Introduction

Technology is a powerful lever to harness quality in work, performance, and of life. Technology makes complex thing simple. It empowers capacity of man. In general, Technology is always for improvement. The application of technology is accepted in every aspect of life and in every field of development. Education is not out of this field of induction. Teachers are using technology in facilitating student learning. Naturally, educational technology has now taken a vital role. Today technology is greatly used in special education for students with any category of disabilities. The ordinary class-room itself or the delivery system can present physical barriers. To overcome these barriers technology— both Educational and Assistive are greatly used.

What is Assistive Technology ?

The technology which assists or helps any category of disable students in learning by compensating their special needs, may be called Assistive Technology (A.T).

Assistive Technology (A.T) devices refer to “any item, piece of equipment or product system, whether acquired commercially off-the-shelf, modified, or customized, that is used to increase, maintain, or improve the functional capacities of a child with a disability.” (P.L. 101-407).

Assistive Technology services are “any services that directly assist an individual with disability in selection, acquisition or use of an assistive technology devices” (P.L. 101-407).

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Assistive Technology devices are originally looked for and used only for the students with severe/profound disabilities. Now educators have expanded their use to the education of the mild-to-moderate disabilities. [Loeding]

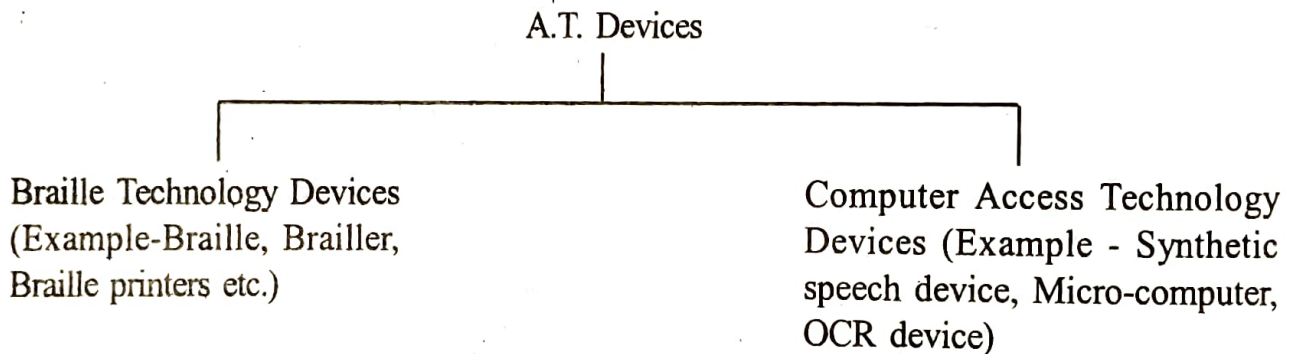
Who are Visually Impaired ?

The National society for the protection of Blindness, 1966, USA and Social Security Act, 1935, USA has defined, "Blindness is visual acuity for distant vision of 20/200 or less than in the better eye, with best correction, or visual acuity or more than 20/200 if the widest diameter of field of vision subtends an angle no greater than 20 degrees."

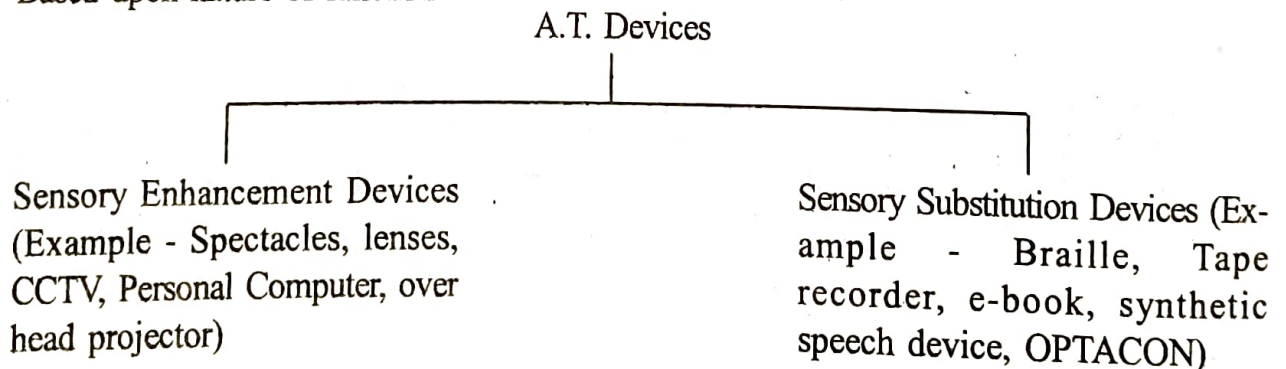
In education, a person will be fully visually impaired whose vision is so limited/defective that he can not be educated through visual methods. It includes about 80% and above medically visual impaired children, as they can not use visual methods.

Some Assistive Technology Devices for V.I. Students

Based upon nature of the devices -



Based upon nature of function -



A. Braille Technology Devices

Braille is the widespread system of representing letters, words, and numbers by pattern of raised dots. These are Braille, Brailler, Braille printers, Braille notetakers. [Algozzine & Yesseldyke]

B. Computer Access Technology Devices

This technology may provide the computer with tactile, auditory or enlarged visual displays.

Computer Access Technology makes all kinds of information displaying devices (tactile, auditory, visual etc.), very simple, user friendly, easy to handle, and sophisticated.

Sensory aid Technology devices are of two types depending upon the nature of function it does to the users. These are :

1) Sensory Enhancement Devices

These Assistive devices increase the usability of information presented to a sensory system. Here the devices enhance the visibility of visual information by providing increased magnification, illumination and/or contrast.

Examples : Spectacles, magnifying lenses, close-circuit TV, magnifier, etc.

2) Sensory Substitution Devices

For blind children this technology devices, represent information through another sensory channel except vision.

Examples : Brailles, canes, tape-recorder, and other high technology devices, such as OPTACON (Optical-to-Tactile Converter). [Loeding]

It is clear that sensory enhancement Technology devices for the partially visual impaired students whereas 'fully blind' students have to use sensory substitution Technology devices.

Sensory Aid Information Displaying Devices

Sensory aid display technology may be divided into four main categories based upon the sensory modality selected for the informational display :

1. Tactile Displays
2. Auditory Displays
3. Visual Displays
4. Multiple Displays

1. Tactile Displays

Tactile Display devices are commonly used in our country.

a) Simple Paper Braille

Braille remains the primary tactile means for displaying information to blind people. It represents letters, words, and numbers by patterns of raised dots. The visual impaired student may read by touching on the raised dots with the fingers of hands. To write something by Braille, a paper set on the frame which is porous and the blind student stress the paper with the stylus to make letters within the specified area from right hand side to left.

b) Taylor Frame

It is a rectangular double sheeted frame widely used for mathematical calculation. The upper aluminium sheet is porous and each hold is of octagon shaped and types are put in the hole & by different positions of the types indicate different numbers & symbols.

c) Paperless Braille

This technology provides access in Braille to information on a computer screen. This paperless Braille devices are connected to computers and operated by raising or lowering a series of pins to produce Braille codes for information shown on the computer screen. (Schrier, leventhal & Uslan, 1991).

d) Braille Computer

There are six keys selected from a normal key board as six dots of Braille system to put information in computer. Braille printers convert information from computers. After being sent information to be Brailled, they do the actual embossing of the Braille code on to paper. This computer can also say what has been written on the screen. Normal print also available here.

e) Braille Note-taking Devices

It is nothing but a small portable Braille computer with key board for entering information and speech synthesizers or Braille displays for providing information. People with visual impairments use these devices to keep track of what is going on in class-room presentations or meetings.

f) Brailier

It is a kind of typewriter specially made for V.I. Children. There are mainly 6 keys for the 6 dots which are the basic of all Braille Technology. The dots are pressed on a paper set in the Brailier.

g) Optacon

The latest tactile display device is OPTACON- an optical-to-tactile converter. Here attempts are being made to provide tactile analogs of visual images. It is a portable device to be used by blind people to read normal prints.

2. Auditory Display

People with visual impairments can hear what other people can read.

Synthetic Speech Devices

Synthetic speech device comprises a synthesizer that does the speaking and a screen access programme that tells it what to say. A keyboard or a separate key-pad is used to input simple command instructions describing what the synthesizer is to do (for example, read a word, line, paragraph) [Algozzine & Ysseldyke]

3. Visual Displays

Many students with vision impairment learn to read using traditional methods with enlarged print.

a) Close-Circuit Television (CCTV)

Close-circuit Television systems are used to achieve four-to-five times magnification that helps many people with visual impairments to read textual information more easily. A closed-circuit television system uses a video camera to project the magnified image on to a video monitor or television screen. [Uslan, 1993]

b) Personal Computer

Personal computer software and hardware, word processing software to enlarge everything on the screen, including graphics.

4) Multiple Displays

Here the output informations may be displayed in multiple way-such as tactile, auditory or visual form.

OCR Devices

Optical character recognition (OCR) devices convert print into electronic forms that can be accessed with other adaptive equipment. First printed information is scanned, and the images are converted to text using a computer and appropriate software. The text is then accessible using other adaptive devices, such as image enhancement, synthetic speech, or Braille.

Difference Between Assistive Technology and Educational Technology

Educational Technology refers to 'any technical method for achieving the purpose of education and is comprised of those methods that facilitate all the facets of the process of education'. [Vertress and Pannell, 2001]

Distinction between Educational Technology (ET) and Assistive Technology (AT) may be put in these words, "**Assistive Technology is only considered to meet the needs of students receiving special education whereas Educational Technology is being used with all children.**" [Loeding 2002. P. 252].

For example, we can say, e-books or audio books are considered Assistive Technology devices for students who are blind because without them they will not be able to read a conventional printed books at all, while to the students without disabilities, e-books or audio books are considered as education technology devices that offer another way to read.

Again, E.T. which does not assist or help the handicapped student is not A.T. on the other hand A.T. helps the handicapped child as well as helps the normal child in a new way to get information.

So, we may say "All Assistive Technology may be Educational Technology, but all Educational Technology are not Assistive Technology."

Importance of Assistive Technology

A student with visual impairment may not be visually handicapped in education if we provide him a suitable Assistive Technology & other social environments.

According to Lowerfield (1975), blindness imposes three basic limitations on the individual :

- i) It restricts the range and variety of experiences.
- ii) It restricts the ability to get about
- iii) It limits the control of environment and the self in relation to it.

Assistive Technology can help the blind persons in reducing these handicapping conditions. [Mani].

Blindness and information processing of VI. student is as follows :

About 80% concepts are formed in a normal child through vision. Assistive Technology

About 80% concepts are formed in a normal child through vision. Assistive Technology converts the optical information into another kinds.

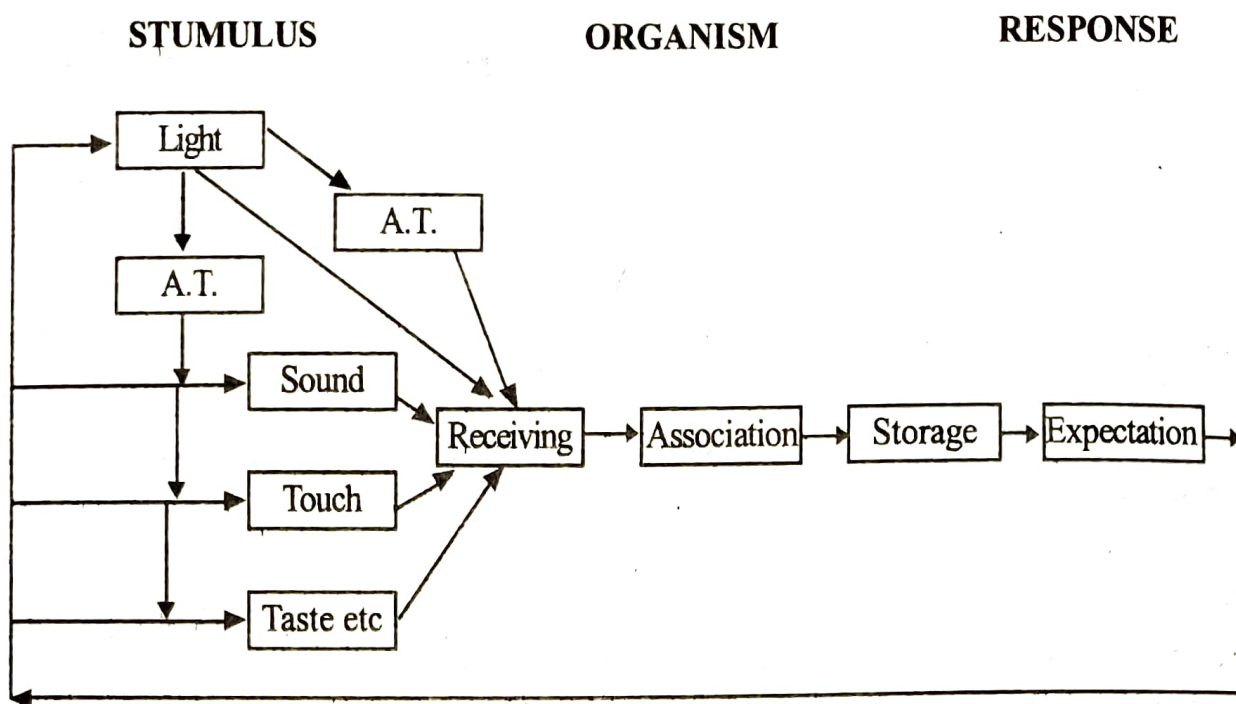


Fig. Blindness & Information Processing

The main functions of Assistive Technology are given below :

- 1) Assistive Technology (AT) gives students a way to access an appropriate education-skill building or remediation of skills.
- 2) A.T. enhances students educational experiences (improvement in productivity, making learning more enjoyable).
- 3) Assistive Technology converts visual stimuli into usable form (e.g.; optical to tactile form).
- 4) A.T. enable the blind child to move to those data that do not come to him directly.
- 5) A.T. helps to increase the blind child's ability to utilize all data that do not come to him easily.
- 6) A.T. always introduces new appropriate teaching strategies and learning media for blind children.
- 8) Its another main task is to develop a suitable teaching-learning material (TLM) for V.I. students.
- 9) A.T. helps to assess progress in the field of education.

Assistive Technology in Plus Curriculum

Blind children require alternative or additional supports that will enable them to access to the general curriculum. These additional experience & skills are commonly called plus curriculum. The plus curriculum contains skills, not any academic information. The plus curriculum includes :

- i) Sensory training
- ii) Orientation & mobility
- iii) Activities of daily living
- iv) Typing or access to computer

- v) Recorded books
- vi) Abacus
- vii) Braille-reading & writing.

To develop these skills in the V.I. children, Assistive Technology helps so much. For example, cane, ultrasonic beams, trisensor etc. for mobility; watch, calculator, thermometer etc. for daily life, tape-recorder for recorded books etc.

Barriers to Use A.T. in Education of V.I. Students in India

The major barriers to use A.T. in India are as follows -

1) Negative Attitudes of Family & Society

The blind or V.I. child is not well accepted in our society, family or to the family members.

In this regard, the experience of Adrienne Asch is "when the Rehabilitation Act. of 1973 and the Education for all Handicapped Children Act of 1975 were passed, I believed wonderful things would happen for people with disabilities. I picture disabled children finally going to school with non-disabled students of their age and grade In the 1980's I find that my expectations are only sometimes met. (Asch, 1989, P. 181)." In our society, there are needs of positive attitude and provide modern technology to the blind students.

2) Funds

Many families are not able to buy modern electronic A.T. devices, such as, ultrasonic cane, Braille computer, synthesizers, tape recorder even fundamental devices like paper Braille, Taylor frame, Braille Books etc. In India, personal Braille Computer, personal speech synthesizer & Optacon are yet dreams to a blind student, because of their high price.

3) Unavailability

The devices are not available in the market nearer; they have to wait even a few months to collect the devices from a particular company. E.g., Ramakrishna Vivekananda Mission School for blind, deaf & dumb has to collect paper Braille from a factory of Rajasthan by amount Rs. 75 only. Here the cost though minimum one has to wait a few months to get it. Again, some sophisticated electronic devices are not available in India, so he has to buy that devices from abroad.

4) Non-trained Teachers

Technology develops the devices day by day. With the advancement of the technology the teachers are not trained well simultaneously. So, the teachers are not interested to introduce new devices in education and if available, cannot handle them.

5) Need of Expert Persons

To introduce any kind of A.T. device, related experts are essential for demonstrating or giving suggestions. These persons are rare in our country.

6) Sometimes parents or teachers think some A.T. devices are unusable for the child.

7) Parents have a little faith in both Assistive Technology and are handicapped to develop themselves.

- 8) A common fear exists among the handicapped students to use it.
- 9) Most of the softwares used in Braille computer are obviously in English. So, they are not useful to visually impaired students of India.
- 10) The computer used by V.I. students is 'DOS' based, as they do not use mouse. So it is not time effective.
- 11) Information about A.T. is also unavailable.

Suggestions

The following suggestions may be considered for betterment of education by using A.T. of visually impaired children.

- Attitudes of parents & our society to visually impaired children should be changed. The idea should be given to people that "a blind child may be an independent, educated, employed, social being, when we support to become so."
- Interested persons, NGOS, NGAS, should take initiatives to solve the financial problem. Govt. should provide subsidy to all the assistive devices.
- Teachers should show positive attitudes to the visually impaired children and should always encourage them to take education and to use A.T. devices.
- Teachers should be creative, who can use A.T. devices properly. A creative teacher can make learning interesting even with low cost technology.
- Teachers training centres should be more advanced and after a certain period Orientation & Refresher courses should be arranged for them.
- With the help of the manufacturing company, Govt. may set up many sales-counters through out the country, so that the V.I. Students or parents may get the A.T. devices easily.
- The research study should be insisted on this field so that many methods, techniques, softwares are devised for adapting the foreign Assistive Devices to the Indian students.
- We have to use the existing technology to the maximum extent.
- Teaching materials should always be converted into usual forms of visually impaired children.
- Visually impaired children should use the A.T. devices regularly as much as possible. In this way, they may develop their skills.

Conclusion

Nine out of ten of those who are blind live in the developing world. In general, more than two-third of today's blindness could be avoided (prevented or treated) by applying existing knowledge and technology.

The use of Assistive Technology is to be judged in relation to :

- Its effectiveness,
- Its accessibility in our country,

- Its time requirements
- Its minimum pictorial graphic information.

The technology and the technological devices, no doubt, are the products of intelligent and creative brain. But its effective services to the visually impaired students require sincerity and devotion.

Bibliography

Algozzine, Bob & Ysseldyke, James E. *Special Education : A practical Approach for Teachers*. New Delhi : Kanishka Publishers, 1998.

Loeding, Barbaria L. "The use of Educational Technology and Assistive Devices in Special Education." *Rethinking Professional Issues in Special Education*. James L. Paul, et al (eds.). Connecticut. London, etc : Ablex Publishing Ltd., 2002.

Mani, M.N.G. *Techniques of Teaching Blind Children*. New Delhi : Sterling Publishers Pvt. Ltd., 1998.

----. "Technology in the Services for the Visually Impaired in India." *Readings in Special Education*. Ed. N. Venkataiah. Ambala : The Associated Publishers, 1993.

Bio-physical and Bio-social Approches to Personality

Debabrata Debnath

Abstract

The field of personality may be classified in various ways. But according to structure, the approaches of personality may be defined through Bio-physical and Bio-social approach. Galen, Kretschmer and Steldom's propositions are important in Bio-physical approach. On the other hand, Eysenck and Cattell's propositions are important in Bio-social approach.

The field of personality has been approached in a wide variety of ways. Certainly any theory of personality would require to explain both, its structure and its dynamics. But explanations can be categorised on the focus whether the chief target is structure or dynamics. In this manner, the following approaches are identified in understanding personality.

i) Explanation Of Structure

- Bio-Physical Approach
- Bio-Social Approach.

ii) Explanation Of Dynamics

- Psychoanalytical
- Psycho-social
- Social Learning
- Personological
- Spiritual
- Some concepts of significants.

Bio-Physical Approach

The bio-physical approaches to personality assume that an individual's personality is determined by his biological and constitutional characteristics. This is evident in the popular wisdom which relates joviality with fat people and impulsive anger with the lean and thin. Three proposition can be gathered from the literature as stated below :

Hippocrates/Galen's Proposition

Personality is determined by "humours" (secretion of glands) blood (red, sanguine), Phlegm, yellow (choleric) bile and black (Melancholic) bile.

Kretschmer's Proposition

Personality can be explained by reference to the body – build of the individual : short and thick (pyknic) slender and weak (asthenic); and balanced physique (athletic).

Steldom's Proposition Personality is determined by the nature of embryonic development which results in and identified by over development of the stomach (endomorph), or of the muscles mesomorph) or of the head (ectomorph).

Bio-Social Approach

Bio-social approaches assume that personality is formed by the interplay between the individual's biological disposition and the social-cultural forces impinging upon him. However, with their eyes set upon the derivation of structure, they studied personal characteristics and/or personality ratings of large samples of persons and subjected the data to statistical analysis.

Two prominent names in this category are Eysenck and Cattell. Interested in a classificatory structure Eysenck derived a 2×2 structure formed by two polarities. Interested in an elaborate description of structure Cattell derived a set of 16 factors called 'source-traits'. Their propositions are stated below.

Eysenck's Proposition

The individual's personality can be explained by his position on two independent polarities, namely Extroversion-Introversion and Neuroticism – stability. which generate by their interaction the four types in the bio-physical Hippocrates. Galen's proposition is figured below :

UNSTABLE			
	moody	touchy	
	anxious	restless	
	rigid	aggressive	
	sobber	excitable	
	pessimistic	changeable	
	reserved	impulsive	
	unsociable	optimistic	
quiet	melancholic	choleric	active
INTROVERTED		EXTROVERTED	
Passive	Phlegmatic	sanguine	sociable
thoughtful			outgoing
peaceful			easy going
controlled			lively
reliable			careful
even temperd	calm	leadership	
STABLE			

Cattell's Proposition

The individual's personality structure can be explained by a psychograph or profile showing his position on bipolar "source-traits" or "primary factors" (16 in adults, 14 in adolescents, 12 in children) each shaped by the interplay of heredity and environment differently and is describe in the flow chart

Low Score Description	Factor	High Score Description
Reserved detached	A	Outgoing warm hearted
Less intelligent, concrete thinking	B	More intelligent
Affected by feelings	C	Emotionally stable
Humid, mild	E	Assertive, Aggressive
Sober, Prudent	F	Happy-go-lucky, lively
Disregards rules, Expedient	G	Conscientious, preserving
Shy, restrained, timid	H	Venturesome, socially bold
Toughminded, self restraint	I	Tender-minded, clinging
Trusting, adaptable	L	Suspicious
Practical careful	M	Imaginative
Forthsight, natural	N	Calculating
Self assured, confident	O	Apprehensive, self reproching
Conservative	Q ₁	Experimeriting, liberal
Group dependent	Q ₂	Self-sufficient
Undisciplined, self confident, relaxed	Q ₃	controlled, socially precise
Tranquil	Q ₄	Tensed, frustrated

Conclusion

An individual's psychograph or 16 PF profiles constructed on different occassions may vary for reasons of change in mental state or social role. Within each of these approaches different theorists have given various explanations (built into systems which would require for their understanding, reading of detailed texts.)

Anglo-hybrids in its Early Phase: A Case Study

Malayendu Dinda

Abstract

The history of English in Bengal began in the last decade of the seventeenth century with the arrival of the British traders and the Company's executives. Wherever the British explored or settled they had established English as a language of communication. In fact, the English language virtually became one of the most important instruments of colonisation in the third world countries. When Bengali and English came in close contact with each other linguistic borrowing took place on either side to fill the mutual 'gaps' or for 'prestige issues'. As a result of borrowing some linguistic phenomena were beginning to take place. One such a phenomenon is hybridism and the end-products of this process are anglo-hybrid words. This article is a study of such anglo-hybrids, especially the early anglo-hybrids as found in the Bengali sketches and tales written in the nineteenth century.

The history of English in Bengal begins in the last decade of the seventeenth century with the arrival of the British traders and East India Company's executives. As a result, the Bengalis and the Britishers came in close contact for the first time in their history. And it is well-known that wherever the British, the great *baniyan*-s, explored or settled, they had taken their language with them and practically the English language had become the primary instrument in promoting the process of British colonisation in its dependencies. Thus, the arrival of the British introduced the Bengalis to a new culture as well as an alien language (English). After the Battle of Plassey (1757) when the Britishers had consolidated their political and administrative control over the whole of Bengal, English, the language of the coloniser, started influencing Bengali, the language or, to use a parlance of colonial discourse, vernacular of the colonised. Consequently, English words started entering into Bengali and at the same time there had also been a considerable influx of Indian / Bengali words into English. Thereafter as the contact continued to linger, a new linguistic phenomenon was beginning to take place. Some words having elements of both English and Bengali began to appear.

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Many of these words received currency in Bengali as well as the anglo-Indian speech (by anglo-Indian I mean the kind of mixed language used in India under the British and no other significance). The words thus formed, generally called hybrids, can be found in abundance in the old letters, diaries, legal documents and literature of various genres written by both the foreigners and Indians. For the present study I have taken a number of sketches written in the nineteenth century as the primary sources. The names of the sketches, the year of their publication, and the abbreviations of the names of the texts are given here below :

Texts	Year of publication	Abbreviation
<i>Kalikātā Kamalālay</i>	1823	<i>KK</i>
<i>Nababābu Bilās</i>	1825	<i>NBaB</i>
<i>Nababibi Bilās</i>	1830	<i>NBiB</i>
<i>Ālāler Gharer Dulāl</i>	1858	<i>AGD</i>
<i>Hutom Py cār Nakṣā</i>	1962, 1864	<i>HPN</i>
<i>Āpnār Mukh Āpuni Dekha</i>	1863	<i>AMAD</i>
<i>Samāj Kucitra</i>	1865	<i>SK</i>
<i>Kākbhusuṇḍ or Kāhini</i>	1865	<i>KBK</i>
<i>Caksusthir Nātak</i>	1865	<i>CN</i>
<i>Pallīgrāmastha Bābuder</i>		
<i>Durgotsab</i>	1868	<i>PBD</i>
<i>Kalikātā Hāḥhadda</i>	1868	<i>KH</i>
<i>Kalikātā Nukocuri</i>	1869	<i>KN</i>
<i>Ki Majār Śanibār</i>	1870	<i>KMS</i>
<i>Sacitra Guljār Nagar</i>	1871	<i>SGN</i>
<i>Bāñālir Muṇḍu</i>	1887	<i>BM</i>
<i>Ānanda Laharī</i>	1889	<i>ĀL</i>

After a careful selection of the hybrid words a list has been prepared. The sign * beside the abbreviated name of a text suggests its first edition. After the abbreviations of the texts follows the number of the pages in which the words appear and the number in

the square bracket indicates the frequency of a word that recurs in that particular text.

The other common abbreviations are :

Ar.	Arabic
B.	Bengali
E.	English
Fr.	French
P.	Persian
San.	Sanskrit
CM	Code Mixing
CS	Code Switching

It is generally admitted that words whose elements come from more than one language are called composite words or hybrid words or sometimes simply hybrids. Whenever a language comes in touch with another language, it is highly probable that some lexical items having elements of both languages will appear. The oft-cited example of this linguistic phenomenon, hybridism, as called by Otto Jespersen (1860-1943), is, of course, English under the influence of Norman Conquest (1066 A.D.). Not long after the influx of Franco-Norman words in English, traces of hybridism began to appear. English inflectional and derivational endings then were being gradually added to the French roots/stems as in the genitive *the Duke's children* or the superlative *noblest* (Fr. *noble* + E. *-est*), etc. Other examples of English endings attached to the French vocables are *-ness* as in *faintness* (Fr. *faint* + E. *-ness*), *-ship* as in *courtship* (Fr. *court* + E. *-ship*), *-dom* as in *martyrdom* (Fr. *martyr* + E. *-dom*), *-less* as in *artless* (Fr. *art* + E. *-less*), *-full* as in *beautiful* (Fr. *beauty* + E. *-full*), *-ly* as in *nobly* (Fr. *noble* + E. *-ly*) and so forth.¹

In the same way, the phenomenon of hybridism occurs in Bengali, too, in its language-contact situations. Whenever it came under the influence of a foreign language as a result of either a military conquest or colonial settlement at any point of time in its history, the result was the formation of hybridised lexical items, composed of two or more elements. The process is called hybridisation and through this process Bengali has acquired quite a number of hybrids consisting of native and Perso-Arabic elements in the middle age and thereafter indigenised elements including Perso-Arabic words and morphemes (by this time Perso-Arabic words have been naturalised and accepted as loanwords in the system of the Bengali language and therefore they are not considered as foreign words) and English in the eighteenth and nineteenth centuries.

With the advent of the Muslim rule in Bengal in the twelfth and thirteenth centuries a host of Arabic, Persian and Turkish words came into the gamut of Bengali vocables. During the Muslim rule in Bengal the intrusion of these words, later and better known as *Musalmani*, took place through three different channels: first, Arabic words came through the preachings of *maulavi*-s and *maulānā*-s, the Muslim religious leaders; second, Turkish words were brought by the Muslim soldiers and other military personnel, and third, the kings and their attendants introduced the Persian words.² In course of time with the subsequent consolidation of the Muslim rule in Bengal, Persian was accepted as the language of the court, civil and military administration and education. As a consequence of the official recognition of the Persian language, it came to be increasingly identified with the traditional urban service classes, of both the educated Muslims, *ashrāf* [sharif] and the Persianised Hindus, especially the scribal caste of *Kāyastha* and certain Brahmin groups. The strong economic interests of these groups helped to preserve the official status of the Persian language. It is the official recognition of Persian that augmented the intake of Persian lexemes and morphemes in Bengali which in the long run enriched the Bengali vocabulary to a great extent. Suniti Kumar Chatterji (S.K. Chatterji or Chatterji hereafter) has calculated that Perso-Arabic words occupy approximately 3.25% - 3.30% of the Bengali vocabulary.³ Another distinguished scholar of Persian has shown that out of each twenty words uttered or written in Bengali, one word is invariably of Perso-Arabic origin. In comparison to Perso-Arabic elements, English forms a tiny part, less than even 1% of Bengali lexis.⁴ So till the nineteenth century hybridism influenced by English is not as intense and significant as that of the Perso-Arabic. The chief reason is that for Bengali, the span of contact with Persian and Arabic (up to the nineteenth century) is more than six hundred years while with English it is only three hundred years. The number of years of contact is perhaps not very important for English. Rather, what is more significant is the pace in which English started influencing Bengali and contributing to its stock of words. When the Britishers settled in Bengal and gained political supremacy the language of the hosts, i.e. Bengali (hence Bengali is the 'host language' hereafter) showed some signs of linguistic changes owing to the presence of the 'guest language' (English). Among other linguistic changes caused by such contact some special type of morphological and morpho-phonemic transformations were noticed to occur in the Bengali speech. More and more native and/or Perso-Arabic prefixes and suffixes were being gradually added to the English roots/stems. The derived result of this process is what we call hybrids or mixed words. In anglo-India (i.e. India under the British) they were called

'anglo-vernacular' words. The relatively new term for such words is anglo-hybrids. Hybrids or, to be more precise, the anglo-vernacular words are the product of some sociolinguistic processes such as borrowing, code mixing (CM) and code switching (CS) that occur simultaneously in a discourse between anglo-Indians and Bengalis.

One common way in which two different languages (varieties) get mixed up with each other is through the process of borrowing. If a word or a phrase or even whole sentence is taken from one language (=code) and is used in another language it becomes borrowing and when the borrowing is a single word, completely or partly assimilated into the host language, it is called a loanword. It is obvious that borrowed elements are accepted to fill the lexical gaps of the 'matrix language' (ML). Initially, for that purpose an item is taken over lock, stock and barrel and speakers sometimes try to pronounce that item as it is pronounced in the 'source language' (SL). However, when a great number of speakers use it they will pronounce it according to the phonological system of their mother tongue (MT). After a considerable span of contact the two codes get mixed up and show some signs of morphological transformations. The other two terms denote a process of combining at least two languages or speeches in different ways in a discourse. A 'code' may be a language or a variety of language or a dialect. CM generally occurs in the word level (it may also occur in the phrase and clause level) and it emphasises on hybridisation while CS refers to a movement from a code (code is used here because it is more neutral than 'language' or 'language variety') to another and vice versa. CM and CS occur generally in a bilingual or multilingual situation. Though different sociolinguists have different opinions about CS a workable definition can be like this (especially used in the field of Applied Linguistics): "[It is] a change by a speaker (or writer) from one language or language variety to another one".⁵ It is to be noted that a written discourse can also be taken for the analysis of code switching pattern and social motivation behind the switching. CM, sometimes called 'convergence' or 'interference' also, is different from CS mainly in two respects: (1) Each instance of language/code alternation is not accompanied by a shift in the speech / discourse situation and (2) code / language change occurs intra-sententially. Again, CM is distinguished from borrowing by (1) code mixed elements do not necessarily 'fill lexical gap' in the ML; (2) code mixed elements are often sequences longer than single words; (3) code mixed elements are not restricted to a limited set accepted by the speech community; the entire knowledge of the second language can help the code mixer while mixing codes/ language; (4) the code mixed elements are not necessarily assimilated into the ML by regular phonological and morphological processes and finally, as Pfaff

rightly observers: borrowing can occur in monolingual speech, while code mixing is necessarily a product of bilingual competence.⁶

Now the Bengali sketches of the nineteenth century which are included in the present study are replete with such CM. To give a few examples:

- (a) To tell you the truth I want some money ... My *nāyeb* will be sending a mint of money *mās duyeker madhye*. And I really do not know what to do with it (CN, 93).

[Italics mine, the italicised words / phrases are written in Bengali and the rests are in Roman script. It is the same with other examples]].

- (b) *Ye kathā* evidence[-e] put in *hay nā, āmār bhāipo haye, eman irrelevant kathāṭā dh kare kaye basli?* (AL, 28).
 (c) Not a bit, *normal-e. āmār yerūp* popularity gain *karā āche, tāhāte bhoṭ* [vote] *samgraha karite kichumātra bilamba haibe nā* (AL, 58).
 (d) *Tek tek [,] na tek na tek [,] ekbār to si!* (HPN, 279)

[Take take, no take no take, *ekbār to see!*]

In these examples, the native Bengali speakers, who received English education, switched constantly from Bengali to English or from English to Bengali in their conversation, not always with the Englishmen but with the Bengali-speaking fellows, and that too not with the strangers or the less familiar but with their intimate friends and family members. They mixed codes, not because of the want of adequate expressions and phrases in Bengali but for parading their knowledge of English in both private and public places and it became a sort of affectation, one may even call it anglomania, by which they gained social respectability in the native community.

Now, the general categories of hybrids in Bengali are given below:⁷

- (i) Foreign word + Foreign word: e.g. *kazī hāus* (Ar. *kāzī* + E. *house*)
dāymālī jel (Ar. *dāymāl* + E. *jail*).
 (ii) Foreign word + Foreign suffix: e.g. *jelkhānā* (E. *jail* + Per. *-khana*),
māstārgiri (E. *master* + Per. *-giri*)
 (iii) Foreign prefix + Foreign word: e.g. *be-ādab* (Per. *be* + Per. *-ādab*).
 (iv) Foreign word + Native word: e.g. *dāktārbābu* (E. *doctor* + B. *-bābu*)
māstārmaśāi (E. *master* + B. *-maśāi*)
 (v) Foreign word + Native suffix: e.g. *māstāri* (E. *master* + B. *-i*)
ṭicāri (E. *teacher* + B. *-i*)

S.K.Chatterji added four more categories to this list. They are as follows:

- (vi) Foreign word + Tatsama suffix
- (vii) Tatsama word + Foreign word
- (viii) Foreign word + Tatsama word
- (ix) Tadbhava word + Foreign word

Keeping these categories in mind one can look at the list of anglo-hybrids found in nineteenth-century sketches and tales and find some morphological operations/processes. But first a few words about the selection of the anglo-hybrids.

Even a cursory glance at any page of the sketches and tales under scrutiny (or any text written in Bengali for the matter) will reveal that Bengali / Hindustani (Hindi and Urdu together) *bibhakti*-s (inflectional endings) like *-ra*, *-me* etc. and *sambandha pada* makers, genitives like *-r*, *-er*, *-eder* etc. will combine with any English word or group of words, used as both Noun phrase and Verb phrase. So the English words having Bengali/ Hindusthani inflectional endings and genitives are not accepted as anglo-hybrids proper, otherwise the number of hybrids will be many and the analysis will be faulty. It is for this reason, only in a few special cases words with such endings are selected where these endings are crucial for understanding the meaning of the words as well as their *modus operandi* of the morphological combination.

After examining the hybrids carefully one is sure to find out a dominant tendency in the hybridised items, i.e. native/ nativised Perso-Arabic affixes (i.e. prefixes + suffixes) are added to the foreign bases. Hybrids of this type are found in great numbers in most languages of the world. On the contrary, hybrids of the other type, i.e. hybrids consisting of native bases (i.e. roots or stems) and foreign suffixes are rare, English being a notable exception in this respect. In the given list of anglo-hybrids, the single-word hybrids of the latter type are very rare, almost nil in Bengali.

Hybrids having English morpheme/s given in the list, can be classified as follows:

- (a) English word + Perso-Arabic word : e.g. *śip sarkār*
hoṭelkhānā
bilsarkāri
met sarkāri
- (b) Perso-Arabic word + English word: e.g. *sadarmeṭ*
bibi-miśanari
bilātikāṭ

- (c) Perso-Arabic Prefix + English word: e.g. *be-heḍ*
be-ṭāim
be-rejiṣṭari
be-Iṭāliān
- (d) English word + Native word: e.g. *ruinmātra*
brāncgali
rolruṭi
śilāmṭi
- (e) English word + Native suffix: e.g. *māṣṭāri*
keāri
kālekṭari
- (f) English word + Perso-Arabic suffix: e.g. *ṭyāsloyālā*
hoṭelkhānā
nambaroyāri
ṭikiṭoyālā
- (g) Tatsama (= Sanskrit) word + English word: e.g. *brāhmikā kyāp*
- (h) Native word + English word: e.g. *māṭgudām*
mejomāṣṭār
- (i) **English prefix + Native / Perso-Arabic word: e.g. *hāph ākrāi*
phul ākrāi
heḍ khānsāmā

From the above examples it is evident that no English prefixes proper (i.e. those morphemes which are not used as separate meaningful words) are added to native and naturalised Perso-Arabic bases/words nor any English inflectional or derivational ending combines with Bengali or Perso-Arabic bases. It is also to be noted that *half*, *full*, *head*, etc. are not accepted as prefixes because they are independent words. But prefix, as a rule, should be a 'bound morpheme' added at the beginning of a word and it will change the meaning or the functional aspect of the word. According to Chatterji, English words like *full*, *half*, *head*, etc. can act like prefixes as in *full-ākrāi*, *half-ākrāi*, *head-bābu* in Bengali.⁸ Perhaps this is not correct. From the functional point of view, we can accept *full*, *half*, *head* etc. as combining forms like *pro-* (e.g. *pro-British*), *astro-* (as in *astrology*) and *anti-* (as in *anti-Establishment*), *auto-* (as in *automobile*), *semi-* (as in *semi-final*), *sub* (as in *sub-assistant*) etc.⁹ On the whole, there is no denying the fact that the anglo-hybrids in Bengali are mostly of the first type, i.e. native and

Perso-Arabic prefixes and suffixes are added to English bases and in most cases not the other way round.

Further, a close examination of the hybrids would point at the following:

1. Structurally, hybrids are of two types: (1) single words such as *keāri* (E. *care* + B. *-i*), *rejīṣṭari* (E. *register* + B. *-i*) etc.¹⁰ and compound words like *uil patra* (E. *will* + B. *patra*), *gul gārden* (P. *gul* + E. *garden*), *kāpteni aphis* (E. *captain* + B. *-i* + E. *office*) etc. Orthographically, the compound hybrids are of three types: (1) solid compounds, such as *sadarmeṭ* (P. *sadr* > *sadar* + E. *mate*), *skulmāṣṭargiri* (E. *school* + E. *master* + P. *-giri*); (2) hyphanated compounds such as *philtār-kara* (E. *filter* + B. *-kara*), *be-rejīṣṭāri* (P. *be-* + E. *register* + B. *-i*); (3) Open compounds like *śip sarkār* (E. *ship* + P. *sarkār*), *śil āmṭi* (E. *seal* + B. *āmṭi*), etc. Generally, a compound hybrid is formed of a 'base' and a 'combining form' or a free word. For instance, in *biography*, *bio-* is attached to a combining form *-graphy* and the vowel *-o-* helps in the combination (That is why *-o-* acts as a thematic vowel here). In Bengali most of the compound hybrids are formed of a combination of a base and a free word as in *bilāti kaṭ* (P. *bilāti* + E. *cut*), *bulbul phāit* (P. *bulbul* + E. *fight*) etc. In some hybrids a few *bibhakti*-s (inflectional endings), and some *sambandha pada* (genitive) markers are attached intrinsically. For example: *kompānir kāgaj* (E. *company-r* *kāgaj* < *company's* paper), *bāipeḍer kāri* (E. *biped* + B. *-er* + Tamil. *curry*), etc. In addition to these *bibhakti*-s and genitives, Bengali suffix *-i* functions like an 'interfix' or a thematic vowel as in *hoṭelikhānā* (E. *hotel* + B. *-i* + P. *khānā*), *kāpteni aphis* (E. *captain* + B. *-i* + E. *office*), etc. A thematic vowel adheres to a root or a base to form its stem or 'theme'. This vowel then usually controls the derivational and inflectional affixes attached to it. Again, an interfix is a linguistic component used to unite a word and a base. So a thematic vowel can act as an interfix. The thematic vowel *-o-* in *biography* is a kind of interfix. Similarly, the middle suffix *-in-as* in *teacher-in-charge*, *editor-in-chief*, *-a-as* in *rent-a-car*, *-cum-as* in *coach-cum-player*, *writer-cum-editor* are common examples of interfixes in English. The genitive markers in Bengali like *-r-*, *-er-*, *-eder-* and the ending *-i* can function as interfixes in the compound hybrids. However, there is no 'infix' in these anglo-hybrids nor does it generally occur in Bengali. An infix is an affix which is placed inside another morpheme; rather than being placed beside a morpheme or between the morphemes. In other words, an infix is capable of splitting up a single morpheme. Since infix creates a discontinuous root (i.e. the

root is divided and the infix is inserted in between) it is relatively rare in most of the languages of the world. Infixes are generally found in Arabic, Sindhi, Tagalog (a major language of Philippines), etc. Tagalog is a classic example of infixing language. The infixes --um-- and -- in -- are used in certain verb forms. For example:

Tagalog:

lakad -----→ l.um.akad

“walk”

“walked” (inflection)

In English the use of infixes is very rare and restricted. Infixes are only found in what has now come to be known as ‘expletive infixation’, such as *fan --bloody--tastic*, *kanga --bloody -- roo*, *guaran -- damn -- tee*, *abso – boomin’ -- lutely* etc. But in the list of anglo-hybrids no such cases of infixation occur.

2. Among the hybrids found in the sketches, majority of the words, according to their word-classes, are nouns or verbal nouns and the rests are adjectives. Adverbs and verbs are rare.
3. These anglo-hybrids are unique in one respect. The corpus of Bengali vocabulary is generally divided under five categories : (i) *tatsama* (identical with Sanskrit word), (ii) *tadbhava* (derived or modified from Sanskrit), (iii) *ardha-tatsama* (semi-*tatsama*), (iv) *deśi* (native word), and (v) *videśi* (foreign word). It is quite obvious that the anglo-hybrids do not belong to any one of these taxonomic division because of their composite nature. For instance, *hāp ākrāi* (E. *half* + B. *ākrāi*) contains clearly elements of *videśi* and *deśi* categories. For this reason some of the hybrids are included in both the host and the guest language as members of their lexical repertoire.
4. Morphologically, English words can be used to create a special form of hybrids such as *glyās- flyās* (glass- flyās), *mameṭam-pameṭam* (*mameṭam-pomaṭum*), etc. The process involved in such words is called ‘partial reduplication’. Reduplication is a very common phenomenon in Indian languages including Bengali, Hindi and Urdu. In reduplication the whole or part of the stem/root is repeated either to the left or to the right or in the middle. The interesting point about the process is that it involves adding material like any other form of affixation, but the identity of the added material is determined, whether whole or part, by the stem/root. The material to be added can be a whole word, a whole morpheme, a syllable or sequences of syllables or a string of consonants and vowels. Thus, the item (generally a noun/verb/adverb) “is repeated in

succession, primarily for emphasis, but also to convey other meanings, such as the distributive, inclusive, iterative, etc.”¹¹ It renders a tempo and a flavour to the language. Given below are some examples of the whole word being reduplicated:

Hindi	:	khare khare
		“standing”
Bāṅglā		dhīre dhīre
		“slowly”
Urdu	:	āhistā āhistā
		“slowly”

Sometimes an English word/morpheme is reduplicated in Bengali to mean the plural such as *ḍajan ḍajan* (*dozen dozen* = dozens), *glās glās* (*glass glass* = glasses), etc. Examples of duplication for pluralisation abound in these sketches. However, in the example like *glyās ṭlyās*, it does not involve a simple repetition of the word / morpheme as in *dhīre dhīre*, *dozen dozen* but repetition with a change in the initial phoneme of the first syllable. That is why it is called ‘partial reduplication’. Usually, in Bengali the first phoneme of the word / morpheme to be repeated begins with /ph/ or /ṭ/ as in *kāj phāj*, *bāri ṭāri* and occasionally with /s/, /ś/, /m/, and /p/ or /b/ as in *buddhi suddhi*, *mukhu śukhyu*, *tarkari markari*, *hāre nāre*, *cākri bākri* respectively. The two types of reduplication have different functions in Bengali. The “full reduplication serves to emphasise or intensify the meaning ... whereas the partial reduplication has a generalising (“and so on and so forth)” function”.¹²

5. Like the loanwords, hybrids too undergo some changes in their phonetic structure. The foreign phonemes are assimilated to the Bengali phonological system and are gradually nativised before being completely accepted by the common folk. For instance, *mortgage paper* becomes *māргеji kāgaj*, *half ākrāi* becomes *hāp ākrā(i)*, *mutton chop* becomes *madan chābā* and so forth.

Notes and References

¹ Jespersen, 97-98.

² Abdul Mayid Khan, 670-71.

³ Chatterji (1926), 218.

⁴ Ibid.

⁵ Jack Richard, 43.

⁶ Sridhar, 76-77.

⁷ Anita Bandyopadhyay, 36-39.

⁸ Chatterji (1939), 174-75.

⁹ *Full, half, head* etc. are not mentioned in the list of English prefixes given in the Appendix 1 of *A University Grammar of English* (431-35).

¹⁰ Words like *iñci, gilṭi, phisti, libi* (leave), *listi* are not examples of hybrids but of progressive assimilation, i.e. the final /i/ is realised at the influence of the initial /i/. So the /i/ in the final position is not a suffix here.

¹¹ Sridhar, 141.

¹² *Ibid.*, 142.

Bibliography

Bandyopadhyay, Anita. "Bāmlā Sāhitye Miśra Śabder Byābahār". *Ababhās*. 1:3 (Śārādīya), Oct–Dec/2001.

Bearman, P.J. et al. (eds.). *The Encyclopaedia of Islam*. Leiden: Brill, 2000.

Chatterji, Suniti Kumar. *The Origin and Development of Bengali Language*. New Delhi: Rupa & Co., 2002 (1st pub. 1926).

_____. *Bhasha–Prakash Bangla Vyakaran*. Calcutta: Rupa & Co., 1989 (1st pub. 1939).

Görlach, Manfred. *The Linguistic History of English*. London: Macmillan, 1994 (1st pub. 1974 in German).

Jespersen, Otto. *Growth and Structure of the English Language*. Calcutta, Delhi etc.: Oxford University Press, 1994 (1st pub. 1938).

Khan, Abdul Mayid. "Bangīya Musalmāndiger Mātrbhāsā Kī?" *Prabāsī*, 8:12, 1315 (BS).

McArthur, Tom, (ed.). *Oxford Companion to the English Language*. Oxford: Oxford University Press, 2005 (1st pub. 1992).

Quirk, Randolph and Sidney Greenbaum. *A University Grammar of English*. Chennai: Multivista Global Ltd., 2000 (1st pub. 1973).

Richard, Jack et al. *Longman Dictionary of Applied Linguistics*. Essex: Longman, 1985.

Sridhar, Kamal K. *English in Indian Bilingualism*. N. Delhi: Manohar Publications, 1989.

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Emblem of the Ramakrishna Mission

The wavy waters in the picture are symbolic of Karma; and lotus, of Bhakti; and the rising-sun, of Jnana. The encircling serpent is indicative of Yoga and the awakened Kundalini Shakti, while the swan is the picture stands for the Paramatman (Supreme Self). Therefore the idea of the picture is that by the union of Karma, Jnana, Bhakti and Yoga, the vision of the Paramatman is obtained.

-Swami Vivekananda