

SOCIO-LINGUISTIC ANALYSIS OF SCIENCE TEXTBOOK IN MAHARASHTRA

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ABSTRACT

This paper is focusing on the issue of cultural and linguistic dimensions of science text book. How science education has to introduce at the very first primary stage has been discussed. This paper aims to analyse the ways in which the culture and language of child education can be employed in text book. How analysis can be made using the content and social-pedagogic relationships promoted by the language of the text book.

INTRODUCTION

After the 13 years of continuous research application work for translating culture from ethnographic information to educational programme in an action research to create successful language arts programme for Hawaiian students Cathie Jordan (1985) has proved that to be successful educational practice it must be compatible with the culture(s) of the children. The natal culture should be used as the guide in the selection of educational programme. Educational anthropology is helpful discipline for this transformation of knowledge from cultural set to formal education setup. It has rarely been seen that such type of mechanism has established over the schools which are educating minority students. Concept of cultural compatibility is central through this action research. (1)

As the behavior of the child is context sensitive (Tharp Jordan and O'Donnell, 1980), the way in which text book addresses the context and the language of the child becomes the influential issue in the educational achievement of the child. An interesting statement "The behavior smart in one culture may be stupid in other culture (Cole, Gay, Glick and Sharp, 1971; Sternberg, 2004), can be easily provoke us to search in what extent the role of culture and context is important to assign and to shape the intelligence of child. As language and culture are so interlinked, this implies that culture reflected in a textbook must be the influential

aspect in the educational achievement of child. Conceptualization, development and assessment of intelligence even cannot be meaningfully understood out of cultural context. (Sternberg, Robert, 2004)

In Maharashtra in addition to majority regional languages the linguistic situation is complicated. The presence of several minority languages and hierarchical relationship of caste and class dialects make the discourse critical. Therefore the focus on transformation of culture and language in learning, teaching, assessment, and evaluation of science education will surely be helpful to improve the effectiveness of teaching learning discourse.

About the transformation of knowledge in the academic domain it has proved that it is possible by multidisciplinary action research to create successful language arts programme for Hawaiian students. In this programme special attention has given to the process of translating anthropological knowledge in to effective education practice. The role of anthropology has emphasized in such work. The process and the stages involved are organized moving from cultural theory and ethnographic information to an academically effective educational programme described for the ethnic minority students.

It explains that the knowledge of educational anthropology is helpful for the transformation of knowledge from cultural setup to formal education setup but the rare cases are observed in this regard. It has very rarely been seen that the type of mechanism has established over the schools which are educating minority students. It also has emphasized that to know the problem is not necessarily helpful to discover the solution. They found very well that those students were facing the cultural problems regarding the achievement in the education but they didn't conclude how to develop the new form for them as it was not guided by their findings. That is why five to six years after starting their action

research they were not succeed to get the direction for the proper action. The concept of cultural compatibility has been central through the application of research.

Textbooks are primary and teaching aids, sources from which students obtain knowledge therefore it is important to be aware that the inadequate and inconsistent scientific knowledge presented in the science textbook can negatively affect students ideas. If text book is to describe the links between real world phenomena and scientific theories, the research in the last 30 years which has shown that it is common for students to have misconceptions or other learning difficulties with different science concepts at all levels of education (Ahtineva, 2005). There must be somewhere relationship between success of the child and textbooks to develop inter linkage between real world phenomenon and scientific theories. .

It is the prime need to build the framework of socio-cultural analysis of science education textbook in Marathi language with the help of some basic questions such as

1. What image of science education has portrayed by the internal content of this text book?
2. Does text book helps to understand and acknowledge the value of cultural and linguistic diversity, and possess the knowledge, skills and understanding to contribute to and benefit from such diversity?'
3. To what extent science textbook allows student to have access to the scientific content?

1 The Criteria for Evaluating the Quality of the Science Textbooks-

When we think about the universal approach of the textbook the question struck to mind that what would be the ideal form of the content for all. Is it worth to develop such universal form of the textbook to apply on such diverse platform? What would be the base line of that content which would make consensus among members of all strata of the society? My problem in the words Aristotle; who wrote more than 2300 years ago (Shaw, n.d., 1):

“In modern times there are opposing views about the practice of education. There is no general agreement about what the young should learn either in relation to virtue or in relation to the best life; nor is it clear whether their education ought to be directed more towards the intellect than towards the character of the soul ...And it is not certain whether training should be directed at things useful in life, or at those conducive to virtue, or at non-essentials ...And there is no agreement as to what in fact does tend towards virtue. Men do not all prize most highly the same virtue, so naturally they differ also about the proper training for it. Everything we do is guided by our basic philosophy of what we consider to be true and valuable in life. Since this

basic philosophy also determines our approach to education it deserves our attention”.

This is about the universal focus on education but it becomes more critical during triangulations of content with the socio-cultural diversities. Is it possible to find the critical way of the analysis to balance the all necessities? The critical analysis of textbooks is vital in improving teaching and learning at all levels in the subject. It is a very important issue to discuss about the range of academic perspectives on how that analysis should be done.

TEXTUAL AND LANGUAGE ANALYSIS OF SCIENCE TEXTBOOK

In the specific sixth standard science text book of Maharashtra it has been clearly seen that the text book language plays an important role to classify and organise the content formality and to frame it in an academic setup. This function of language can be realised by specific lexico-grammatical conventions that act as resources for constructing specific pedagogical messages. The teacher must not only acquaint the students with the strange sounds and structures of the new scientific textbook language; he must also familiarize his students with the culture underlying and pervading the language he teaches (Dobson, 1983). For most people, the main opportunity to learn something about a foreign culture is when they learn a foreign language (O'Brien, 1991). Therefore science teaching should incorporate someteaching of culture in its content. The teacher of a science thus have the responsibility to ensure that their students have some awareness of the language culture of the science textbook language.

After the observation of the sixth standard text science text book of Maharashtra it can be seen that reading scientific words in Marathi language science textbook which are often Sanskrit saturated has become a complex skill. Sometimes it could be happen that child may answer brilliantly if the question is simply asked in their regional dialect, how many non flowering plants do you know ? In fact it would be a very difficult if the question would be asked in Marathi that APUSHPA VANASPATINCHI NAVE SANGA.(In sanskritised upper caste/class Marathi language).in the discussion about the different parts of leaf and flower use of sanskritised words make reference of the familiar parts difficult for example-in a simple Marathi a leave is called 'PAN' but to make academic in Sanskritised form Marathi it has written as PARN. With reference to this the Edge of the leaf becomes PARNDHARA,the tip of the leaf becomes PARNAGRA,veins in the leaf becomes PARNSHIRA the use of such words becomes the pattern of the text book to make more academic. The conversion of the contextual empiricist knowledge in to academic knowledge

goes necessarily through the Sanskritisation. The use of Sanskrit is not an arbitrary or without prejudices in Indian context. As Sanskrit has been the language of upper castes since thousands of years and especially it has used as a weapon to limit the access of knowledge only for upper castes and to ban it for lower castes in a hierarchical division of peoples in caste system. It becomes the essential component of textbook to provide alternatives or to control overuse of such Sanskritised words. In order to get meaning and to read with ease and enjoyment, students must know the sound of the language, its structures, and its vocabulary.

The stereotyping of the gender is the obviously observed fact in the culture of science textbooks of Maharashtra. To illustrate the concept like 'Force' hands making dough to cook bread are always shown with bangles, fetching of water from well has also shown as a duty of woman. Household work and motherhood are also emphasised as the duty of woman. The textbook gives the very clear message that cooking is the job of females. The binding of textbook with urban and upper class, caste culture which leads to the certain frame, certain language by considering It as a standard language is serious issue which affects the children from the marginalized sections in Maharashtra.

It has seen the that whole discourse of science text book has driven by the pattern of assessment and structure of question paper.

CONCLUSION

There are constructional deviations in the Science textbook of Maharashtra from the reflection of natural setting of socio-linguistic and cultural context of child. Textbook can play a key role in the introduction of science at primary stage if they assist teachers by providing the scope of freedom to notify the contextual examples from various socio-cultural settings to illustrate the skeletal of the content in textbook.

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