

## **EVALUATION OF SCIENCE TEXTBOOK OF CLASS VIII OF JAMMU AND KASHMIR STATE BOARD OF SCHOOL EDUCATION ON THE BASIS OF RESPONSES OF EXPERTS**

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### **ABSTRACT:**

The present study is related with, "Evaluation of Science Textbook of Class VIII of J & K State Board of School Education on the basis of Responses of Experts". The study was conducted on 30 Experts which were purposively selected from different government and private schools of Anantnag, Kulgam, Shopian and Pulwama of Jammu and Kashmir. Open- ended questionnaire developed by the researcher was used for knowing the responses of experts. Data were analysed by using Content Analysis. The main findings of the research were; According to the teachers, most of the aspects of the book are up to the mark and need no review but there are certain aspects of the book which need a change such as printing of the book, paper quality of the book, cover page of the book, pictures on the cover page, language of the textbook, introduction of new vocabulary words etc.

### **RATIONALE OF THE STUDY:**

Curriculum is the basic principle of any education system which needs to be updated to bring changes in the whole education system. Textbook forms the basis of curriculum and is an important component of the education system that needs to be evaluated and updated on regular

basis. Textbook plays an important role in teaching learning process as it occupies a unique position as it addresses the students' needs and is used by the teachers as a vital instructional material. Thus it should be kept in mind that textbooks once made should not be considered final for all times to come but should be evaluated from time to time to keep the pace with the changing world. A textbook if it fulfills the purpose for which it was made can be used as an effective tool of instruction. Thus textbooks need to be evaluated from time to time and evaluation of any kind is carried out to check whether it has achieved the predetermined goals or not. Textbook evaluation provides us evidences about the merits and demerits of the book and how well the students and teachers are satisfied with it.

Various studies have been conducted on evaluation of textbooks by different researchers which are discussed below under different headings;

### **Research Studies on Evaluation of English Textbooks:**

Singh (1984) conducted a study on critical evaluation of nationalized English textbooks for classes VI to X of Haryana and found that the textbook prescribed for class VII had drawbacks like that of having fewer pictures and less illustrations and the English reader for class IX had drawbacks like insufficient number of pictures and illustrations, misprinted words, difficult language. In another study conducted by Jayaraj (1998) on Content Analysis and Evaluation of English Textbooks of Standard XII in Tamil Nadu and Kerala and found that there is significant difference at 0.05 level of significance between the mean of the scores of teachers of Tamil Nadu and Kerala pertaining to certain aspects of English textbook viz., fulfilment of objectives, adequacy to develop skill of speaking, reduced efforts for preparation and time spent on the reader in a period. It is found that the mean value of the teachers of Tamil Nadu is greater than that of the teachers in Kerala. In another study conducted by Santhi (2007) on An Evaluation of the English Textbook at Higher Secondary Level in Tamil Nadu: A Linguistic Study and found that the printing of the textbook is clear, distinct and legible and needs to be appreciated, Paper used for the book is of good quality as well, Charts, Graphs etc. do not need any changes. Their occurrence in the textbook is only scarce but is clear. In another study conducted by Mukundan (2012) on Evaluative Criteria of an English Language Textbook Evaluation Checklist (Malaysia) and found that Vocabulary was rated as most important and physical and utilitarian attributes as the least important. In another study conducted by Nguyen (2015) on An Evaluation of the Textbook English 6: A Case Study from the Secondary Schools in the Mekong Delta Provinces of Vietnam and found that the textbook should be supplemented with language material from different resources such as picture stories, comic strips etc. The supporting resources need to be more widely available and better, both in terms of physical appearance and quality. In another study conducted by Rahmawati (2018) on Content Analysis of the English Textbook, Primary English as a Second Language (Surabaya) and found that the exercises in the textbook do not match with the criteria of a good English textbook because it does not incorporate pair/ group work. Vocabulary aspect also does not meet the criteria of a good English textbook.

### **Research Studies on Evaluation of other Textbooks:**

Pathabhram (1973) conducted a study on evaluation of nationalized textbooks for higher classes in Social Studies in secondary schools of Andhra Pradesh and found that all the nationalized textbooks were rated as satisfactory with regard to their mechanical characteristics, but there was

room for improvement of design, stitching and wrapper moreover the presentation of content was below average in the nationalized textbooks meant for class X. In another study conducted by Rastogi (1975) on A Comparative study of Mother tongue textbooks prescribed for Primary classes in Bengali, Gujarati, Hindi (Delhi), Hindi (UP), Telugu and Urdu and found that in regard to the 'lessons', the most popular items were tales, fun and recreation, nature and natural environment, home, school and neighborhood; the least popular items were 'patriotism' and 'technology'. In another study conducted by Lalithamma (1981) on Formulation of criteria for writing textbooks in mathematics and evaluation of mathematics textbooks prescribed for the secondary schools of Kerala and found that more emphasis was given to process operations than to the product to be obtained, Reference materials were not provided in any of the textbooks. In another study conducted by Karim (1982) on analysis of the contents of the History textbooks followed in Kerala schools with a view to developing models and materials for national integration and found that while instances of obscurantism, communalism and regionalism were rare, the content of the textbooks was not consciously intended to promote national integration. In another study conducted by Tharwani (1982) on critical study of the prescribed textbooks in Hindi lower level from standards V to X in Maharashtra state with a view to their improvement and found that there were some printing mistakes especially of short and long vowels in the textbooks of the higher classes, Exercises given in the textbooks were not adequate. In another study conducted by Ekbote (1985) on linguistic analysis of the textbooks of Marathi mother tongue prescribed for standard I to X by the Maharashtra State Board of Secondary education and found that the principles of process of linguistic development were not adhered to while preparing the textbooks. In another study conducted by Bhatt (1986) on investigation into various components of textbooks in students of XI and XII of Gujarat state and found that the readability of textbooks for class XII was more than that of textbooks for class XI. In another study conducted by Bhatia (1987) on Evaluation of Sindhi text books for standard VIII to X prescribed in secondary schools of Maharashtra state and found that Content selected for the textbooks was helpful in achieving the instructional objectives of the Sindhi language and helped in achieving the national goals too. In another study conducted by Gote (1997) on A Critical Study of Geography \_\_ Textbooks for Standard 1 to 5 as per the Syllabus Prescribed by the Government of Maharashtra in 1989 and found that the content in each text book is relevant to the Objectives of Geography \_\_ subject at primary level, the language in each textbook is easy to understand by the respective students in each standard with standardized words and Geographical terminology. In another study conducted by Babu (2010) on A Critical Evaluation of the Content and Teaching of Mathematics for Class-3 and Class-5 in Andhra Pradesh and found that a favorable opinion was expressed by majority of the teachers and subject experts regarding existing mathematics textbooks of classes 3 and 5 published by the government of Andhra Pradesh of various aspects, textbook attributes, scope for development of cognitive skills, presentation of difficult concepts, textbooks interesting, informative and imaginative, child –centered , nature of activities, physical features, printing errors, scope of practical work and basic knowledge, reasoning used in the textbook , weightage and coverage of syllabus. In another study conducted by Tok (2010) on TEFL textbook evaluation: from teachers' perspectives (Turkey) and found that textbook actually did not stand up reasonably well to a systematic in-depth analysis and that the negative attributes far out-weighed the positive characteristics.

And many more studied different aspects of textbooks with respect to the different state boards of India and abroad, but no research has been done in the evaluation of Textbooks (English

Textbook) which are being published by Jammu and Kashmir State board of School Education. Thus there is a dire need to undertake this research work and evolve suitable textbooks which help students to achieve the progress they must make to keep pace with the advancing world. That is why the present study by the researcher was under taken.

### **STATEMENT OF PROBLEM:**

### **EVALUATION OF SCIENCE TEXTBOOK OF CLASS VIII OF JAMMU AND KASHMIR STATE BOARD OF SCHOOL EDUCATION ON THE BASIS OF RESPONSES OF EXPERTS OPERATIONAL DEFINITION**

**EXPERTS:** In the present study subject specific experts were selected only. (Science experts having post-graduation in the respective subject and teaching experience of more than 15 years).

### **OBJECTIVES:**

The following was the objective of the research:

To evaluate Science Textbook of Class VIII of Jammu and Kashmir State Board of School Education on the basis of responses of Experts.

### **SAMPLE:**

The study was conducted on 30 experts which were purposively selected from four districts of south Kashmir namely Anantnag, Kulgam, Shopian and Pulwama.

### **TOOLS:**

In the present study the researcher developed Open-ended questionnaire which was used for data collection.

### **STATISTICAL TECHNIQUE:**

The data was analysed by using Content Analysis.

### **FINDINGS:**

Major findings of the research were:

#### **Major Findings from Experts Open Ended Questionnaire for the Evaluation of Science Textbook of Class VIII**

##### **a) Physical features of the book**

- ❖ Majority of the experts were of the view that Cover Page, Pictures on Cover Page, Pictures on different pages are not attractive.
- ❖ Most of the experts were of the view that Paper Quality and Binding of the book is not up to the mark.
- ❖ Majority of the experts were of the view that Water mark creates hindrance in reading the words properly in different chapters of the book.

- ❖ Most of the experts were of the view that the Font Size, Font Style, Line Spacing, Price, Weight, Size and Number of pages in the book are up to the mark.

**b) Contents of the book**

- ❖ Majority of the experts were of the view that Contents in the book are according to mental maturity of the students.
- ❖ Most of the experts were of the view that Examples from union territory of J & K have been taken wherever possible for the explanation of different concepts.
- ❖ Majority of the experts were of the view that some Concepts in the book have been narrowly discussed.
- ❖ Most of the experts were of the view that introduction of the chapters is brief.
- ❖ Most of the experts were of the view that Scientific Names of Plants and Animals have been Properly Written in the book.
- ❖ Majority of the experts were of the view that Supplementary material is required for various concepts/contents in the book.
- ❖ Majority of the experts were of the view that there is no link of the contents covered in Class VIII Science Textbook with those of the contents in Class VII Science Textbook.
- ❖ Most of the experts were of the view that Contents/ Chapters in the book have not been systematically placed in the book.
- ❖ Most of the experts were of the view that the Distribution of Physics, Chemistry, biology and Environmental Science Contents/ Chapters in the book are not appropriate.

**c) Difficulty level of the book**

- ❖ Majority of the experts were of the view that the difficulty level of contents in the book is moderate.
- ❖ Most of the experts were of the view that Physics portion the most difficult portion in the book.
- ❖ Majority of the experts were of the view that Friction, Force and Pressure are the most difficult Chapters.
- ❖ Most of the experts were of the view that Stars and the Solar System, The Cell, Pollution of Air and Water are of Moderate difficulty chapters in the book.
- ❖ Majority of the experts were of the view that Micro-organisms: Friends and Foe, Reproduction in Animals, Metals and Non-Metals are easy chapters in the book.

**d) Illustrations used in the book**

Out of 30 experts, the ratings for illustrations were:

Rating Points	Frequency (No. of Experts)	Percentage
1-5	Nil	0
6	8	26.66
7	18	60
8	4	13.33
9	Nil	0
10	Nil	0

(10 Extremely Difficult, 09 Very Difficult, 08 Pretty Difficult, 07 Mildly Difficult, 06 Slightly Difficult, 05 Neutral, 04 slightly Easy, 03 Mildly Easy, 02 Pretty Easy, 01 Very Easy)

**e) Sufficiency of exercises in the book**

- ❖ Most of the experts were of the opinion that the exercises at the end of the lesson are of diversified nature touching different aspects of different domains.
- ❖ Majority of the experts were of the view that In-Text questions should have been present from unit 1<sup>st</sup> to onwards.
- ❖ Most of the experts were of the view that In-Text questions are not enough in the book.
- ❖ Majority of the experts were of the view that Exercises at the end of the lesson are sufficient and student friendly.
- ❖ Most of the experts were of the view that Key words and summary at the end of the lesson makes it easier for students to recapitulate the lesson but key words are not copacetic.
- ❖ Majority of the experts were of the view that Extending learning activities help them in gaining more information about the different topics/concepts.
- ❖ Most of the experts were of the view that Websites at the end of the lesson provide them ready made material for a particular concept and are often used as a supplementary material to broaden their vision regarding a particular concept.
- ❖ Majority of the experts were of the view that Mixed type of questions touch the different aspects of Blooms Taxonomy.

**f) Compatibility of the contents of the book as per prescribed syllabus**

All the experts were of the view that the contents covered in the book are as per the syllabus issued by Jammu and Kashmir State Board of School Education.

**g) Contents of the book in relation to the state of Jammu and Kashmir**

- ❖ Most of the experts were of the view that there are certain contents (examples) in the book which are related to Jammu and Kashmir.
- ❖ Majority of the experts were of the view that there is not a single chapter in the book which is wholly and solely devoted to the state.
- ❖ Most of the experts were of the view that certain pictures related to different concepts could have been taken from the local culture to make the book more comfortable and interesting for the students. (Food Production and Management)

**h) Practical work/activities in the book**

- ❖ Majority of the experts were of the view that too many activities for the explanation of a single concept has been given in the book.
- ❖ Most of the experts were of the view that enough Emphasis has been on Individual and group work in the book.
- ❖ Majority of the experts were of the view that the practical work/activities are Difficult for below average students.
- ❖ Majority of the experts were of the view that the Practical work in the book is interesting.
- ❖ Most of the experts were of the view that Simple to Complex pattern has been ignored in case of practical work in the book.
- ❖ Majority of the experts were of the view that the Practical work in the book is Copacetic (Satisfactory).

**i) Contents for developing scientific skills among the students**

Majority of the experts were of the view that Chemistry and Physics portion in the book are helpful in developing scientific skills such as Observation, Planning an experiment, Classification, Prediction, Verification, Inference etc.

**j) Any other feedback**

The most common feedback received from the experts are summarized below:

- ❖ Most of the experts were of the view that Physical features of the book need to be improved. (Cover Page, Pictures on Cover Page, Pictures on Different pages, paper quality and binding)
- ❖ Majority of the experts were of the view that Reassessment of difficulty level of physics portion in the book should be done.
- ❖ Most of the experts were of the view that Contents in the book need to be arranged systematically.
- ❖ Majority of the experts were of the view that Annual revision of the book is needed.
- ❖ Most of the experts were of the view that a CD should be attached for the explanation of different scientific phenomenon may prove beneficial to students and teachers.
- ❖ Majority of the experts were of the view that Motivational contents should find a place in next edition of the book
- ❖ Most of the experts were of the view that there should be Continuity among the chapters belonging to a particular field (Branch) in the book.
- ❖ Majority of the experts were of the view that Current issues in science should find a place in its next revised edition.
- ❖ Most of the experts were of the view that ICT should find a place in the book. Use of modern gadgets should find a place as well in the book.
- ❖ Most of the experts were of the view that few topics related to the state of Jammu and Kashmir should find a place exclusively in the book.

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