

An Analysis of Question Papers in Different School Subjects at Class X Level

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Abstract

Examinations play an important role in the Indian system of education. They are so important that they direct the entire teaching-learning process in schools. Examinations use mainly one tool to evaluate the achievement of students and that is the 'question paper'. So, if public examinations have to stay till a viable mechanism of evaluation comes into effect, question papers used by the State Boards of Education in their public examinations need to be continuously examined and improved, especially for the purpose of improving the quality of education at the school stage. It was in this backdrop that a minor research project to analyse Class X question papers of the Uttar Pradesh the State Board of High School and Intermediate Education was undertaken. The objective of the study is to find out whether the question papers are valid and reliable and what are their strengths and weaknesses.

INTRODUCTION

The assessment of performance is an integral part of the teaching-learning process. The National Policy on Education-1986 and its Programme of Action-1992 envisaged an improvement in the programme of evaluation to make it serve as

a powerful instrument of quality improvement in the teaching-learning process in schools. The National Curriculum Framework (NCF, 2005) has also laid emphasis on the quality of questions used in the evaluation process. It points out that as long as examinations and tests assess

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children's ability to remember and recall textbook knowledge, all attempts to redirect the curriculum towards learning will be thwarted. First, tests in knowledge-based subject areas must be able to gauge what children have learnt and their ability to use this knowledge for problem-solving and application in the real world. In addition, they must be able to test the processes of thinking to gauge if the learner has also learnt where to find information, how to use new information and to analyse and evaluate the same. The types of questions that are set for assessment need to go beyond what is printed in the book. Questions that are open-ended and challenging could also be used (NCF, 2005. P: 74).

It is a known fact that examinations are important in our system of education. They direct the teaching-learning process in schools.

Teachers teach only what is being tested and, similarly, students adjust their studies according to the examination. In fact, the first Board examination i.e., Class X examination plays a significant role in dictating the teaching-learning process in schools.

If the washback effect of these examinations is so great, why not exploit it for the betterment of education? If the Board examinations are improved, the teaching-learning methodology in schools will automatically improve.

Board examinations are basically written examinations in India and they use only one tool to assess students' achievement. This tool is the question paper. If the question papers are improved, the impact percolates down to schools. Therefore, the question papers used by the Boards of Education in their public examinations need to be continuously examined and improved. The analysis of the existing question papers is the first step towards improving the quality of testing.

Keeping in view the importance of the analysis of question papers and the marking scheme, the author of this article undertook a minor research project to analyse Class X question papers of the Uttar Pradesh State Board of High School and Intermediate Education.

OBJECTIVES

- Are the question papers in English, Hindi, social science, science and mathematics valid in terms of coverage of instructional objectives and course contents?
- Do the question papers have appropriate difficulty level catering to different capabilities of all kinds of students?
- Whether the question papers have appropriate questions in terms of form, language and scope?

In short, the study tried to find out whether the question papers fulfilled the criterion of balanced papers and what were their strengths and weaknesses.

METHODOLOGY

For this study, annual question papers in English, Hindi, social science, science and mathematics for Class X for the year 2014–15 along with their syllabi and textbooks were procured from the Uttar Pradesh State Board of High School and Intermediate Education. A three-day workshop was organised from 9–11 December 2015 at the Regional Institute of Education, Ajmer. In that workshop, three resource persons — one each for mathematics, science and social science — were invited from the Uttar Pradesh Board of High School and Intermediate Education. They were oriented in filling the proformas and complete the analysis task in their respective subjects. As far as English and Hindi are concerned, the question papers were given to an expert in language testing for analysis.

TOOLS

The analysis was carried out on the basis of three proformas. Proforma-A is used to work out the following information for each individual question:

- Mental processes involved
- Content area tested
- Type of question
- Marks allotted
- Estimated difficulty level
- Time allotted

The observation regarding language, difficulty level, scope of the question, whether question is from the syllabus or not, quality of diagrams and sketches, instructions and the comparability of options, etc., was summarised in the remarks column.

Proforma-B is based on Proforma-A, which is used to calculate marks and a comparison is made with the weightage decided in the design of question paper. Proforma-B, in fact, deals with all aspects of a question paper and is the basis of making observations about the quality of questions and question paper.

Further, the observations made in Proforma A and B are consolidated in Proforma C. A consolidated report is presented in this proforma about the question paper. It takes care of general and specific suggestions also.

Table 1
Weightage given to Contents or Sections as per Analysis

Subjects	Contents or Sections	Section or Content-wise Marks
English	<i>Section A</i>	35
	Prose	16
	Poetry	07
	Supplementary Reader	12
	<i>Section B</i>	35
	Grammar	15

	Translation	04
	Writing	10
	Unseen reading comprehension	06
Hindi	Prose	14
	Poetry	14
	Khand Kavya (Supplementary Reader)	03
	Grammar	21
	Sanskrit	12
	Essay Writing	06
Social Science	History	20
	Civics	15
	Environmental Studies	20
	Economics	15
Science	Light	10
	Electricity	15
	Chemical Substances	10
	Organic Chemistry	10
	Biotic Kingdom	15
	Genetics and Evolution	10
Mathematics	Algebra	12
	Commercial Mathematics	06
	Statistics	06
	Trigonometry	14
	Geometry	16
	Co-ordinated Geometry	08
	Mensuration	08

It was observed that the question the format and weightage given to the papers across the subjects followed content units in the syllabus.

Table 2
Weightage given to Instructional Objectives as per Analysis

Subjects	Objectives				Total
	<i>Knowledge</i>	<i>Understanding/Comprehension</i>	<i>Application/Expression</i>	<i>Skill</i>	
English					
Actual weightage after analysis	18	27	25	--	70
Hindi					
Actual weightage after analysis	31	31	08	--	70

Social Sciences					
Actual weightage after analysis	21	24	12	13	70
Science					
Actual weightage after analysis	24	25	14	07	70
Mathematics					
Actual weightage after analysis	17	24	19	10	70

It can be seen that weightage to objectives in Hindi question paper is not balanced. The question paper gives little weightage to expression. In social sciences, science and mathematics, the actual weightage did not tally with the design.

Boards of School Education use different types of questions in their

question papers. These are Long Answer or Essay Type Questions (LA/ET), Short Answer Questions (SA), Very Short Answer Questions (VSA) and Objective Type Questions (OT). The following table indicates the types of questions used by the Uttar Pradesh State Board of High School and Intermediate Education.

Table 3
Weightage given to Forms of Questions

Subjects	Forms of Questions			
	Long Answer or Essay Type Questions	Short Answer Questions	Very Short Answer Questions	Objective Type Questions
English				
Marks allotted as per analysis	14	16	13	23+04 (MCQ)
Hindi				
Marks allotted as per analysis	05	32	25	08
Social Sciences				
Marks allotted as per analysis	24	24	10	12
Science				
Marks allotted as per analysis	21	18	20	11
Mathematics				
Marks allotted as per analysis	44	16	06	04 (MCQ)

Table 4
Difficulty Level of Questions

Subjects	Difficult (A)	Average (B)	Easy (C)
English			
Marks allotted as per analysis	10	46	14
Hindi			
Marks allotted as per analysis	10	29	31
Social Sciences			
Marks allotted as per analysis	20	37	13
Science			
Marks allotted as per analysis	18	32	20
Mathematics			
Marks allotted as per analysis	14	45	11

It can be seen from Table 3 that in Hindi, only 5 marks were given to Long Answer Questions out of total 70 marks tested. In English, 27 marks were allotted to Objective Type Questions out of the total marks tested.

As evident from the table, in English, Hindi and mathematics question papers, difficult questions are less, whereas in social sciences and science difficult and average questions are more.

MAJOR FINDINGS

The question papers of the Uttar Pradesh Board of High School and Intermediate Education in the subjects of English, Hindi, mathematics, science and social science at Class X level were analysed in terms of the mental processes tested, types of questions used, content areas covered and difficulty level. The major findings are given below subject-wise:

ENGLISH

- As shown in Table 1, English question paper had two sections — Section A for 35 marks which covered the text, viz., prose, and supplementary reader. Section B also for 35 marks, which covered grammar, translation, writing tasks and reading comprehension.
- In the text section, it was seen that the question paper was biased towards testing recall of information from the textbook. Such questions encourage mugging up on the part of students.
- Matching type and true/false questions have been used in the question paper. These are not appropriate for a public examination and should be reserved for classroom use.
- The Multiple Choice Questions (MCQs) tested only trivial knowledge. They have not been used to test deeper understanding of the text.

- The translation task from Hindi to English shows that the grammar translation method is still in use in the Uttar Pradesh Board of High School and Intermediate Education.
- In grammar, the Very Short Answer questions of one word or one sentence have been assigned 2 marks each. Such questions should be assigned 1 mark each.
- The reading comprehension questions do not test any comprehension skill. They ask the students to write 3-4 sentences which can be copied from the given passage.
- The question paper in English requires a thorough change in order to develop the communication skills of students.

HINDI

- The Hindi question paper (Table 1) covered prose, poetry, *Khand Kavya* (supplementary reader), grammar, Sanskrit and essay writing.
- The question paper in Hindi had many questions devoted to knowledge about the authors' lives and their works.
- Little weightage was given to testing of the understanding of texts in prose and poetry.
- The supplementary reader has been assigned only 3 marks which can be increased.
- The marks assigned to grammar was 21, which can be rounded off to 20.

- Sanskrit portion was found having a good coverage. But it was scattered here and there. It would have been good if it was at one place.
- The paper was found to be tilted towards recall.

MATHEMATICS

- The question paper in mathematics covered areas like algebra, commercial mathematics, statistics, trigonometry, geometry, coordinated geometry and mensuration.
- Language of questions was by and large found to be simple and appropriate.
- Inclusion of a few questions on interpretation and reasoning might improve the quality of the question paper.

SCIENCE

- The question paper in science (Table 1) covered physics, chemistry and biology. The weightage to each was found to be appropriate.
- In the whole question paper, no question asked students to draw or label a diagram. It is something which is important in a science question paper.
- Most of the questions were found to be lifted from the textbook which encourages mugging up.
- Questions carrying 2 and 4 marks did not show any difference in the length of expected answers.

SOCIAL SCIENCE

- The question paper in social science (Table 1) covered historical and cultural heritage, environmental studies, civic life and economic development.
- It had all types of questions i.e., Long Answer, Short Answer, Very Short Answer and Multiple Choice Questions.
- All questions are traditional and there is no scope for testing higher mental abilities such as imagination, interpretation, critical thinking, creative thinking, etc. The Multiple Choice Questions look like quiz questions rather than questions for a High School Public Examination.
- Most of the questions in the question paper were lifted from textbooks which promote rote learning.
- Instructions for expected length of answers for each group of questions were not mentioned in the question paper.

GENERAL SUGGESTIONS

While analysing the question papers of different subjects for Class X for the academic year 2014–15, many interesting aspects were observed. As some of the question papers in different subjects were dissimilar in approach in many ways, therefore, it was difficult to compare them. Perhaps, experience of teachers and requirement of the subject have given rise to varying formats of question papers. Question papers varied in types of options too. It was found that most of the options were not comparable in content, objectives

and scope. The analysis indicated that there was a plenty of scope for improving the question papers. Given below are some concerns and it is expected that the Board will take necessary measures for further improvement of its question papers.

- The quality of question paper depends the quality of questions. The question papers in almost all subjects abounded recall or knowledge-based questions testing mental skills. Questions testing higher mental abilities such as problem-solving, critical thinking, imaginative thinking, interpretative, creative thinking, reasoning, analyses, etc., were relatively less in number. Efforts should be made to include more such questions.
- Internal options, wherever given should be comparable in nature, objective and scope as far as possible.
- In a question paper, all types of questions should be included, i.e., Multiple Choice Questions (MCQs), Very Short Answer (VSA), Short Answer (SA) and Long Answer (LA) or Essay Type (ET). Their number should be determined in the 'design'. It enables a paper-setter to cover the entire course content for valid and reliable testing.
- It is observed that the language of some questions is defective. It should clearly specify the task and delimit the scope of the answer. The use of appropriate directional words is necessary. The language should facilitate the answering of questions.

- It is also observed that there are some flaws in the translation of the questions. It is equally important to see to it that the same terms should be used in both English and Hindi version.
 - General instructions are also important and are the first thing an examinee reads. Clear and detailed instructions act as guides for attempting a question. Therefore, detailed general instructions should be provided in question papers.
 - There is no hard and fast rule as far as listing or grouping of questions is concerned. The only criteria to be followed while listing are from easy to difficult questions.
 - The Board should carry out a post-examination analysis of the question papers for further improvement by showing it to subject experts, paper-setters, moderators and evaluators.
 - Finally, evaluation is a technical area. Paper-setters, moderators and evaluators should be regularly trained in the task. They should be exposed to recent trends and developments in the area of educational evaluation and assessment.
- These are some of the suggestions which emerged out of the analysis. Since, at present, public examination is the only way to certify and classify a large number of students, improvement at every stage in the examination process is important. Improvement in question papers itself enhances the credibility of the Board and solves many problems.

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