

Conformity to Quality Characteristics of Textbooks: The Illusion of Textbook Evaluation in Pakistan

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Abstract: Textbooks play an important role in teaching learning process especially in developing countries such as Pakistan. Textbooks are very useful and accessible resources that students and teachers can utilize according to their needs. Thus, the selection of an appropriate textbook is a process that needs careful attention. The study reported in this paper discusses the characteristics of a quality textbook and investigates the presence or absence of these characteristics in the textbooks approved by the Ministry of Education, Pakistan in the light of enacted written (intended) curricula. The data were collected from 51 experts in the field of curriculum material, its development and evaluation with a representation from all geographical areas of Pakistan. The data gathering instrument was a structured Textbook Evaluation Form based on eight characteristics of quality textbook. The analysis of the data indicates that the approved textbooks are lacking in many of the desirable characteristics. The study also discloses that experts with practical experience in curriculum material development and evaluation have deeper understanding of textbook evaluation as compared to those who have theoretical knowledge of the subject and/or only teach it.

Keywords: quality, textbook, evaluation, approved national curriculum

Introduction

Written (intended) curriculum takes shape when the curriculum agencies adopt standards to outline what content and processes should be communicated in the schools. In theory, textbooks are developed on the basis of written curriculum. The curriculum also guides the textbook evaluation. Tornroos (2004) used the term “potentially implemented curriculum” (p. 2) to describe the role of the textbook and other curriculum materials in a classroom in the light of written curriculum. This role of textbooks constitutes an intermediate stage between the intended (written) curriculum and the implemented curriculum. Increased attention is being paid to quality of textbooks across the globe. The

paper examines appraisal of the Ministry-approved textbooks in comparison to standardized books which are based on agreed quality characteristics at the global level. The study reported in this paper attempted to answer the question, ‘to what extent are the Ministry-approved textbooks in Pakistan congruent with the internationally recognized criteria for the approval and selection of quality textbooks’.

Textbooks are considered at the heart of educational activities, as they provide students “a rich array of new and potentially interesting facts, and open the door to a world of fantastic experience” (Chambliss & Calfee, 1998. p.7). The textbooks have significant role as they are considered as “primary vehicles for delivering content knowledge, for determining in large measure what goes on in a class” (Hummel, 1998, cited in Lebrun, Lenoir, Laforest, Larose, Roy, Spallanzani & Pearson, 2002), and for assessing what students do and do not learn (Freeman & Porter, 1989, cited in Oakes & Saunders, 2004). A majority of teachers consider textbooks as the only teaching resource (Maffia, Dias, Brauna & Cruz, 2003). Textbooks do not only influence what and how students learn, but also what and how teachers teach. In Pakistan “Textbooks are considered as the sole and legitimate source of knowledge both for students and teachers” (Bano, 2005, p.5). Given the importance of published curriculum materials in teaching and learning which is mainly in the form of textbooks in many developing countries including Pakistan, the establishment of an effective method of evaluation of these materials by their potential users and experts is an important goal. There are factors that make the textbook a quality textbook by ensuring the presence of those factors through adopting critical and rigorous evaluation processes. Ladnier-Hicks et al. (2010) and Jitendra et al. (2010) provide arguments in favor of critical evaluation of textbooks and associated materials, but acknowledge that time, particularly in relation to textbook adoption, can be a challenge.

In Pakistan, curriculum formulation for school level is the prime responsibility of the Curriculum Wing (CW), Ministry of Education. The Curriculum Wing (CW) develops and notifies curricula for all school subjects from pre-primary (Early Childhood Education) to secondary (grade 12) by involving subject and pedagogical experts from all the five provinces and other administrative parts of the country. CW is empowered through the Federal Supervision of Curricula, Textbooks and Maintenance of Standards of Education Act 1976 to supervise curricula, textbooks and other learning materials as

well as to maintain standards of education in the country (Government of Pakistan, 1976). All textbooks that are recommended for use in public sector schools of the country should have been approved after their careful evaluation by CW. However, it is generally recognized in educational circles in Pakistan that there are deficiencies in the way in which textbooks are approved by CW and, therefore, in the textbooks themselves. These deficiencies have been reported with respect to different characteristics of quality textbooks including, but not limited to, content coverage, scope of developing understanding, horizontal and vertical alignment in the text, and approaches to the delivery of textbooks (Mahmood, 2006; SDPI, 2005; Tasneem, 2008). Textbook deficiencies have provoked much debate (BBC, August 19, 2005; Daily Times, April 12, 2004; Daily Dawn, April 18, 2004 & January 7, 2011; Daily The Nation, April 14 & December 10, 2004; IPS, August 23, 2010; SDPI Research & News Bulletin, July – August 2005) about the procedures used to gain textbook approval from CW and the textbooks themselves. Although there are many factors to account for deficiencies in the textbook selection procedures being used, two appear prominent: a) appropriate criteria against which to judge textbook characteristics; and b) the factors through which to identify the textbook characteristics to be judge against the criteria. By overcoming these deficiencies the quality of textbooks could be improved.

Methodology

The data presented in this paper are taken from a larger research study on textbook evaluation in Pakistan. For the study, the researcher defined the professional working in the field of curriculum and textbook as ‘Curriculum and/or Textbook Expert’ having an education degree and has been working as a: a) professional staff member of Curriculum Bureau, Curriculum Research and Development Center, Provincial Textbook Boards, National Book Foundation, and CW; b) professional staff member of Private publishing houses whose textbooks have been approved by the Ministry of Education; c) faculty of a recognized private or public university and teaches curriculum at post-graduation level; d) curriculum/subject committee member at national and/or provincial level; and/or e) author of at least three textbooks for class one to five of his / her subject area either in public or in private sector and the textbooks are now under use in some

schools in Pakistan.

Sample Selection

A total of sixty (60) experts were selected through a Judgmental Sampling Technique with representation from each of the country's five provinces/administrative units, as this technique helps "access ... 'knowledgeable people' i.e. those who have in-depth knowledge of issue may be by virtue of their professional role, power, access to networks, expertise or experience" (Cohen et. al., p.115). These experts included textbook writers, curriculum developers, faculty of the departments of education teaching curriculum development and evaluation, and members of National Textbook Review Committees (NTRC) - the committee constituted with the approval of Federal Ministry of Education, Government of Pakistan, to evaluate textbooks submitted by private or public sector publishers and to recommend the textbooks for use in public school. Out of the 60 experts: 36 (18 F + 18M) were selected from the province of Punjab for mainly three reasons: a) it was convenient for the researcher to get access to the experts in Punjab, this being his home province; b) he knew who were the experts in this field and he himself had been working with many of these experts in various capacities including teaching faculty of departments of education of various universities, textbook writer, member of provincial textbooks review committees; and c) the province of Punjab has remained hub of the textbook development activities even before creation of Pakistan, ten (5F + 5M) experts were selected from Islamabad as CW and National Book Foundation are established there. Four (2F + 2M) experts were selected from each of the three provinces; Sindh, Balochistan and Khyber Pakhtunkhwa; and two (1F + 1M) from Azad Jamu & Kashmir.

Instrumentation and data collection

In order to elicit the judgment of the experts on the Ministry-approved textbooks for primary grades i.e. 1-5, with respect to the textbooks evaluation criteria followed by CW, "Textbook Evaluation Form" was developed by the researcher and validated through expert opinion. The form was developed in conjunction with the internationally accepted quality characteristics for textbooks. Mahmood (2009) first identified these characteristics of quality textbook through studying internationally available criteria for

textbook evaluation (e.g. All-Wright, 1999; Ansary and Babaii, 2002; Cunningsworth, 1995; McDonough and Shaw 1997; Mahmood, Iqbal and Saeed, 2009; Ministry of Education, 2009; Ontario Ministry of Education, 2006; Pallo, 2006; Skierso 1991; Williams, 1983 & 2002; and Xu, 2004; etc.) and Garvin's' (1988) eight dimensional model of quality products, and, later on, finalized them with the consensus of the curriculum experts in a national level conference. In the Form judgments of experts were obtained on a four point rating scale (0 for no opinion, 1 for below average, 2 for average and 3 for above average). There were 40 statements and two open ended questions in the questionnaire. Table of specification of the form is placed as Table 1. The Form was developed in two languages that are Urdu and English to make it user friendly. In order to bring more clarity into the national language (Urdu) version, English text of the statements was also given side-by-side in the research instrument. The statements included in the form cover the following characteristics of a textbook.

i.Conformity to curriculum policy and scope. This characteristic refers to statements included in the form about coverage of the contents and objectives of the National Curriculum, and intention of the nation as exhibited in the National Education Policy 1998-2010 and the Constitution of Pakistan.

ii.Vocabulary and format. For this characteristic statements regarding, content organization, level of the vocabulary used in the textbook, page layout, relevance of the pictures and illustrations, print style and size, readability of the content etc., were included in the Form.

iii.Horizontal and vertical alignment of the text. It refers to statements included in the Form regarding alignment of the textbook with other textbooks of the same grade, relevance of end of chapter assessments/exercises to contents of the chapter/unit, logical links in the content presented within and among the chapters/units, content organization and presentation, etc.

iv.Acceptability. For this characteristic statements about students' divers environment and socio-economic background, relevance of examples with students' daily life, quality of paper, printing and binding of the book, authors' credentials, attractiveness of the title, were included.

v.Text reliability. It refers to statements included in the Form regarding accuracy of the content and data, adequacy of the content, historical correctness of the facts and figures, free of misconceptions contents, and updated data.

vi.Cognitive development and creative thinking. This characteristic refers to the nature, relevance and level of learning activities included in the textbook. Activities given in the textbook are according to students' developmental level and the content is helpful in developing thinking skills in the students; there is correspondence between size of print and the age and grade of the student.

vii.Learning and Assessment. This characteristic refers to difficulty and understanding level of end of chapter assessments and alignment with objectives of enacted National Curriculum. End of chapter assessments are according to the content matter given in the textbook and to student's mental development level.

viii.Bias free. For this characteristic statements regarding, divers activities for diverse background students, gender equality, exclusion of creeds and areas, and biasness with respect to women, minorities and disable persons, were included in the form.

For data collection, the researcher approached the experts personally in Punjab. However, for the rest of the areas the researcher sent the Form through mail and followed it up through phone. The Ministry-approved textbooks, according to the field of interest of the expert were provided to every expert with the evaluation form. The experts were requested to give their opinion about the Ministry-approved textbook in comparison to standard textbook they had gone through/used in their teaching in any part of the world.

Data Analysis and Interpretation

Out of the sampled participants 51 (85.0%) experts returned to the Form. Table 2 gives the detail of the respondents. In the case of females, the response rate was very low. One of the reasons of this low response was accessibility of less female experts in the field. Table 2 discloses that from all territories experts filled the form. The Cronbach's Alpha value of the form was 0.914 which is acceptable value (Fraenkel and Wallen, 2006; de Vaus, 2001; and Vogat, 2005) to consider the scale reliable. Except for two major characteristics i.e. 'Conformity for curriculum policy and scope' and 'Acceptability' the Alpha value for the rest of the factors is around 0.6. According to Salkind (2007), "Typically, an item [statement] must correlate 0.3 or higher with the total

core in order to remain part of the scale” (p.835). Since the statements included in the form under these two factors, have more than 0.3 correlate value. Therefore, statements under these characteristics could contribute in the overall results. In order to interpret the data; item-wise mean score for each of the factors was calculated. The Mean Score was interpreted as mentioned in Fig 1. If the Mean Score falls between 1 and 1.5 it will imply that expert considered the presence of factor in the textbook is ‘below average’ with respect to standard textbooks. Similarly if the score falls between 1.5 and 2.5 it will imply that the presence of the factor is ‘average’ as compared to a standard textbook of similar kind available in the market.

Characteristic-wise mean score and Standard Deviation is given the Figure 2. The figure discloses that the dispersion in the judgments was not so wide except of on the characteristics ‘learning and assessment’ and ‘bias free’. Majority of the expert’s judgments were overlapping with each other. It implies that the Ministry-approved textbooks are by and large similar to each other on different characteristics of quality textbooks. This was might be due to the level of understanding of expert regarding learning assessment and aspects relating to various biases which are more technical in nature. Experts were more in agreement on the presence of the ‘text reliability’ in the Ministry-approved textbooks as SD for this factor is 0.37. As the mean score on this factor is highest i.e. about 2.0 which indicate that experts also considered that content of these books is accurate, adequate and free of misconceptions; data given in the content is correct and updated; and historical facts and figures have not been tampered. However, the experts did not consider that the textbooks have adhered to Curriculum Policy and the Scope of the topics mentioned in its content-outline for a particular grade and level; as the mean score for this factor is 1.5 which reveals the Ministry-approved textbooks is below average in quality on this factor. Mahmood (2010) is also in-agreement with this finding for the Pakistani Ministry-approved textbook. He commented that proper coverage of scope of the content in the approved textbooks is also an issue as in some of the textbooks, it (content scope) had not been covered completely and in some of the textbooks, other than the topics mentioned in the national curriculum had also been included. Some of the authors had included various practical activities and experiments for some topics; however, some of the equipment suggested reflects either a lack of

concern or a lack of awareness on part of the authors regarding the non-availability of such materials in rural contexts where even basic living facilities could be scarce. The authors seem more concerned about inclusion of the concept in the textbooks, however, without appropriate integration of the activities with the local resources and realities. It is important to mention here that if a textbook does not touch upon the topics that have been mentioned in the curriculum outline, how the book could be claimed as a quality textbook. Furthermore, this leads to raise serious questions on the textbook evaluation processes and mechanism undertaken by the Ministry of Education while approving these textbooks. There is need to revisit these processes and mechanism.

The mean score of the factors ‘horizontal and vertical alignment of the text’ and ‘cognitive development and creative thinking’ is same i.e. 1.8. Although these factors indicate the Ministry-approved textbooks are on an average on these characteristics, the correlation between these two factors is very high ($r = 0.765$). The data also indicate that the strength of association between these factors is very high and that the correlation coefficient is very highly significantly different from zero ($p < 0.01$).

In response to the one of the open ended questions, a staff of the ministry mentioned:

We ensure vertical alignment of the textbook through involving the experts from higher grades than that for which the book is being written. However, we never engage experts of different subjects while evaluating a textbook of a particular grade; hence we cannot guarantee horizontal alignment in the textbooks. Similarly we could not ensure higher order thing skill assessments in the textbooks for developing creativity and think skills among the students as presence of an assessment expert on the NTRC is usually not ensured.

In order to trace out reasons behind this low quality the researcher reviewed the curriculum guidelines and frameworks given to publishers. The review reveals that there were inconsistencies among curriculum guidelines and frameworks of various subjects. The basic information and its extent available in the guidelines and frameworks for a subject might not be available in the report of another subject. This difference among the guidelines and frameworks may trickledown to the textbooks and is one of the possible reasons for this low quality. One of the respondent informed that was member of NTRC writes:

We are neither provided any written guidelines form the CW nor received any

training and/or orientation on textbook review/evaluation. They just provide us curriculum guidelines for review. Focus of the majority of the NTRC members is always on editing of the text and ensuring nothing is against the Islam or Pakistani cultural values.

The data confirm that all experts have consensus that the Ministry-approved textbooks are of low quality with respect to the internationally acceptable standards of textbooks. Keeping in view the non-parametric nature of data, in order to see the difference among the judgments of various groups of expert Kruskal-Wallis Test was used (see Salkind, 2007). The Mean Ranks calculated through this test is presented in Table 3. The table indicates that there was a consistency among the University faculty on all the characteristics which shows, they are in agreement on different factors, however, there is an inconsistency among the textbook developer and evaluators. As a whole, the textbook writers and evaluator gave low rating to the Ministry-approved textbooks as compared to university faculty. This might be due to the reasons that the textbook writers and evaluators have better understanding of: a) textbook development processes and various important aspects of quality textbook including content coverage, format, text reliability and its horizontal and vertical alignment, etc.; and b) the way the textbook have been evaluated, as compared to the university faculty. Hence they are more critical than the university faculty, who may understands the textbooks at more philosophical and/or policy levels rather than at practice level.

Apart from the difference in the mean scores of the three strata of respondents, there was a consistency among the entire respondent in terms of quality of characteristics of textbooks as no significant difference could be found in their mean ranks. It might be due to the small sample size. Nevertheless, it indicates that qualification and the nature of experience of experts impacted their judgments. The respondents with higher professional qualification gave more balanced and in-depth opinion as compared to respondent with low professional qualification.

The data was further analyzed to calculate statement-wise mean score and dispersion in the experts' judgment over each statement as given in the Table 4. The table reveals that the Ministry-approved books are leaning towards above average on the aspects i.e. accuracy of information and clear instructions for students, and factual data

that are also historically correct as the mean score on these aspects is more than 2.0. The Ministry-approved textbooks are on average on the aspects including content organization in chapters and units; relevance of activities with respect to students' development level; connections between subject matter, pictures and graphs help understand students; examples from daily life applications; and compatibility between size of print, age and grade of students; as the mean score on these aspects is around 2.0. The textbooks are also lacking severely in the areas: 1) content promotes conservation of environment; 2) content is helpful in promoting ideology of Pakistan; 3) binding and cover of the books are durable; 4) end of chapter assessments are according to students' mental development level; and 5) content covers objectives given in the national curriculum; as the mean score is around 1.0. The data further reveals that majority of the author(s) of the textbooks are not known for their mastery in the subject for which they had written the textbook.

Discussion of Results

Textbooks are the backbone of instruction in the Pakistani Education system like most of the developing countries. The Federal Ministry of Education in Pakistan is the body that is constitutionally responsible for maintaining the standards of education and educational goals. Therefore, the textbooks are approved by the Ministry before these are allowed to use in the school especially in public sector. This study has delineated characteristics of quality textbooks and gauged their presence in the Ministry-approved textbooks through the judgments of the experts in the field. Unluckily, the Ministry-approved textbooks are lacking in characteristics of quality textbook (e.g. Mohammad and Kumari, 2007; Ram, 2008; etc.). The prevailing textbooks in the country that are approved by the ministry show discrepancies on the aforementioned characteristics of quality textbooks. One of the major causes is the curriculum guidelines of different subjects were inconsistent with regard to basic curriculum components i.e. objectives, detail/scope of contents, teaching methodology and assessments, along with guidelines for authors; as "developing good quality textbooks or syllabus always requires proper guidelines" (Razzak, 2011).

Information presented in the textbooks plays a pivotal role in shaping up the process of classroom teaching and learning, designing of assessment system and evaluation with

students' memorizing and reproducing the information presented in textbooks. Different approaches adopted by the authors in the textbooks may need different pedagogical approaches to deliver the textbook in the classroom. This issue could potentially explain the effects of disorientation and lack of ability to make meaning out of the relevant textbooks experienced by many students (Alexander & Kulikowich, 1994; Keys, 1999; Patterson, 2001; Yore, Craig, & Maguire, 1998). Similar problems of disorientation during instruction have been revealed in some empirical studies in the field of sociology of education (Apple, 2002; Morais, 2002; Morais & Miranda, 1996). Furthermore, the ministry is lacking in having set standard for format and design of textbooks. Guidelines for using font size and paper size for a particular grade are not well-specified. There is lack of compliance with objectives of the curriculum in the approved textbooks. There is lack of homogeneity with regard to the level of understanding demanded by each of the approved textbooks. Textbooks are evaluated on the basis of some assumptions about the authors and publishers. One of these assumptions is that they have full understanding of the requirements of the written curricula while developing the textbook. Findings of the study disclose that this assumption is often incorrect. Similarly, it is assumed that all the evaluators/reviewers of the textbooks engaged by CW for National Textbook Review Committee (NTRC) are fully cognoscente of the evaluation and review guidelines. CPBEP (2007), Mahmood (2006) and SDPI (2005) have also similar findings about the working of NTRC. However, findings of the study suggest that even the explicit criteria/guidelines are available to evaluators/reviewers

Since the Curriculum Wing of the Ministry of Education, Islamabad and Provincial Bureaus of Curriculum are responsible for curriculum development, reviews and implementation, within the limited human sources it is managing its functions with the assistance of panel of experts. The study reveals that there are inconsistencies with regard to evaluation of textbooks. Along with other factors, it also reflects upon the understanding of the evaluation criteria by the committee members.

Conclusions and Recommendations

Since teachers in the public sector in Pakistan have almost no access to the national curriculum document, provided only to textbook writers for their guidance (Bano, 2005), it is imperative that the textbook writers have an additional responsibility to ensure that the textbook reflects basic characteristics of quality textbooks. In order to meet this requirement and overcome above-mentioned deficiencies, it is recommended that CW must devise an explicit criterion for textbook evaluation and review based on characteristics of quality textbooks and it should be shared with the textbook writers and developers along with publishers. It is also recommended that a pool of textbook evaluators should be developed who have shared understanding of the criterion for textbook evaluation and review. Teachers should also be included in the pool to identify issues related to its effective use and suggesting strategies for improvement. It is quite obvious that teachers would be able to make effective use of the textbook only if they realized the value of textbook as an important teaching and learning resource. Finally, as Ladnier-Hicks et al. (2010) and Jitendra et al. (2010) have suggested that the ministry should not give up the quality on the cost of time and money.

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Tables

Table 1
Table of Specifications for the Textbook Evaluation Form (Experts)

Detail of the item	Item No. in the Form
a. Gender	I
b. Key Job Description of the respondent	Ii
c. Demographic data	Iii
d. Qualification & Years of experience in education sector	iv, v-a & b
e. Basic information about the commented textbook	vi, vii & viii
f. Indicators of quality textbooks	
i) Conformity to curriculum policy and Scope	15,22,23
ii) Vocabulary, Illustration and Format	3,7,10,14,29,37
iii) Horizontal and vertical alignment of the text	2,11, 24, 28,33, 34,35
iv) Acceptability	4, 12, 25, 26, 36.39
v) Text Reliability	1,5,9,21,27,32
vi) Cognitive development and creative thinking	6,13,38,
vii) Learning and assessment	30, 31, 40
viii) Bias Free	8,16,17,18,19, 20

Table 2

Gender and territory-Wise Distribution of Respondents from experts sample

Territory	Gender				Total	
	Male		Female		N	% of the sample
	N	% of the sample	N	% of the sample		
Punjab	24	133.3	5	27.8	29	80.6
Khyber Pakhtunkhwa	4	200.0	0	0.0	4	100.0
Sindh	3	150.0	0	0.0	3	75.0
Baluchistan	3	150.0	0	0.0	3	75.0
Islamabad Capital Territory	9	180.0	1	20.0	10	100.0
AJK	2	100.0	0	0.0	2	50.0
Total	45	150.0	6	20.0	51	85.0

Table 3

Institutional Responsibilities-wise Mean Ranks of the Respondents

Factor	Textbook Developer (1)		Textbook Evaluator (2)		University Faculty (3)		Significant Value
	N	Mean Rank	N	Mean Rank	N	Mean Rank	
	Conformity for curriculum policy and scope	15	23.27	13	20.88	23	
Vocabulary and format	15	22.13	13	23.54	23	29.91	0.212
Horizontal and vertical alignment of the text	15	25.03	13	24.73	23	27.35	0.836
Acceptability	15	22.97	13	25.62	23	28.20	0.561
Text reliability	15	23.60	13	20.77	23	30.52	0.120
Cognitive development and creative thinking	15	22.30	13	28.35	23	27.09	0.491
Learning and assessment	15	21.43	13	23.41	23	26.21	0.231

Factor	Textbook Developer (1)		Textbook Evaluator (2)		University Faculty (3)		Significant Value
	N	Mean Rank	N	Mean Rank	N	Mean Rank	
Bias free	15	21.67	13	24.62	23	29.61	0.251

Table 4
Statement-wise Mean Score and Standard Deviation.

Statement	N	\bar{X}	SD
1. Author(s) of the book are known for their mastery in the subject	51	.77	1.099
2. Content promotes conservation of environment	51	1.14	.748
3. Content is helpful in promoting ideology of Pakistan	51	1.34	.720
4. Binding and cover of the book are durable	51	1.35	.688
5. End of chapter assessments are according to student's mental development level	51	1.39	.687
6. Content covers objectives given in the national curriculum	51	1.43	.800
7. No bias with respect to women, minorities and disabled persons	51	1.55	1.110
8. Explanations of the content matter are according to student's vocabulary	51	1.57	.671
9. Page layout is appropriate	51	1.59	.638
10. Inclusion of diverse population	51	1.61	.670
11. End of chapter assessments are in line with objectives of curriculum	51	1.61	.493
12. Paper used for printing is appropriate for the concerned grade and age of the students	51	1.62	.789
13. Content matter promotes use of technology	51	1.63	.713
14. Exclusion of different creeds and areas	51	1.64	.889
15. The book is aligned with other textbooks of the same grade	51	1.67	.792
16. Compatibility between style of print, age and grade of students	51	1.69	.761
17. Diverse activities for students from diverse background in the content	51	1.70	.806
18. Data and information in the content are up to date	51	1.71	.610
19. There are logical links in the content	51	1.71	.566
20. Content is helpful in developing thinking skills in the students	51	1.75	.523

Statement	N	\bar{X}	SD
21. Relevance with national curriculum	51	1.77	.943
22. Content is free of misconceptions	51	1.78	.700
23. Gender quality in using names, examples and explanation	51	1.80	.663
24. Maps, pictures and graphs etc. are relevant to the contents	51	1.82	.740
25. Appearance is attractive and interesting	51	1.82	.712
26. End of chapter assessments are according to the content matter	51	1.84	.611
27. Activities are aligned with content	51	1.92	.483
28. Title of the book is attractive	51	1.92	.483
29. Sequence of the content matter is appropriate	51	1.94	.705
30. Readability of the text is appropriate to the age and grade of the students	51	1.94	.544
31. Name and adjectives are historically correct and no use of controversial terminology?	51	1.94	.947
32. Proper content organization in chapters and units	51	1.96	.631
33. Activities are according to students' development level	51	1.98	.678
34. Connections between subject matter, pictures and graphs help understand students	51	1.98	.735
35. Information are updated and accurate	51	2.00	.447
36. Examples are from daily life applications	51	2.00	.748
37. Adequate content matter	51	2.00	.566
38. Compatibility between size of print, age and grade of students	51	2.02	.812
39. Facts and data are historically correct	51	2.13	.815
40. Accurate information and clear instructions for students are given	51	2.22	.642

Figures

Figure 1: Scale for interpretation of mean score

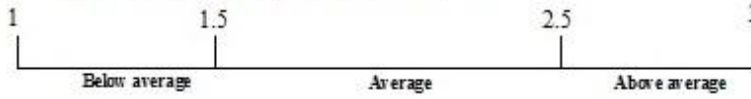


Figure 2: Factor-wise mean score assigned by experts to various factors of Ministry-approved textbooks along with dispersion in their judgments

