

Standardization of textbook evaluation criteria through development of quality textbook indicators

Khalid Mahmood¹

Technical Advisor-Institutional Strengthening, Canada Pakistan Basic Education Project,
Lahore

ikhalidm@gmail.com ; khalidmahmood@cpbep.org

Abstract.

Curriculum products such as textbooks are evaluated to ensure their quality prior to large scale implementation and this evaluation is done by textbook developers or by those who make selection or adoption decisions. Garvin (1988) gave framework that gives eight dimensions to define quality products. Literature on curriculum defines the quality of textbooks that is based on social needs, overall educational objectives, and up-to-date pedagogical and psychological theories of learning. The study reported in this paper identifies indicators based on the Garvin's framework of quality products and what literature suggests as essentials of quality textbooks. These indicators were validated by panel of experts through Delphi Technique. Finalized indicators included: curriculum policy and scope, text reliability, vocabulary, illustrations and format, horizontal and vertical alignment of the text, cognitive development, critical and creative learning, assessment and evaluation, acceptability, environment and bias free. In consultation with experts, compliance conditions of each indicator were also developed and rubric for each of the compliance condition have also been identified in the study. Using these indicators as a general guideline, the evaluation process of textbook could be standardized and it would able to guide evaluators to evaluate textbooks across curriculum areas using a measuring or quantitative methods. It is assumed that the textbooks being evaluated through these guidelines are intended for all learners.

Key Words: Textbooks, evaluation, standards, indicators, rubrics

I. Introduction

Development and production of textbooks is a continuous process, which needs continuous and rigorous research and development. Review and revision of textbooks based on field-testing and research will yield results leading to quality textbooks. In Pakistan, the Curriculum Wing (CW), Ministry of Education is the apex national institution that formulates and approves curricula for all subjects up to class XII. The CW is empowered to prescribe and withdraw textual materials for schools in Pakistan (Government of Pakistan, 1976). Textbook evaluation is one of the key responsibilities of CW. Textbook development and evaluation has always been subject of debate in Pakistan. There are a variety of reasons for this, but non-availability of explicit criteria for textbook evaluation is one of the main concerns. To make the evaluation process more effective, there is a need to identify agreed upon indicators of a quality textbook.

In most of the countries textbooks are written by experts with the assistance of publishers and these textbooks are evaluated by a government agency. In Pakistan, role of textbook development rests with the provincial or regional Textbook Boards, and Private Publishers. These boards and private publishers try to publish the textbooks according to the guidelines provided in the national curriculum, given by the Curriculum Wing of

Ministry of Education. The role of textbook evaluation performed by the Curriculum Wing is to ensure that textbooks are according to the curriculum guidelines provide to the boards and publishers. To facilitate evaluation processes rubric are considered as a vehicle to ensure quality of and objectivity in the process. The more specific a rubric is to an indicator, of a quality textbook the more useful it is the evaluators and the publishers and/or writer. The descriptors associated with the criteria should reference specific requirements of the quality textbook and clearly describe the quality of work at each level on the rubric. The criteria used to evaluate the textbook should be shared as the guidelines are introduced to help publishers begin with the end in mind. Rubrics and models should also be referenced while the textbook are being completed to help publishers/authors revise their work. They should also be used after the textbook is complete, not only to evaluate the product, but also to engage publishers /authors in reflection on the work they have produced.

II. Objectives of the study

The study reported in this paper was guided by the following three objectives;

- a) To identify indicators of quality textbooks through literature and good practices employed internationally in the field.
- b) Based on the results found in (a) above, to develop rubrics for the evaluation of quality textbooks in Pakistan.

III. Methodology

I collected data from the sources given below and developed indicators along with the rubric for quality textbooks.

1. **Review of documents** including reports on textbook evaluation, criteria used by ministries, private organizations, school boards, schools etc. in different parts of the world, along with technical reports on textbooks development and evaluation, researches in the field, etc. Document analysis of educational files, records, and reports can prove to be an extremely valuable source of data (Bell, 2005). It is “a technique that enables researchers to study human behaviour in an indirect way through analysis of their communication” (Fraenkel & Wallen, 2006, p.483), including textbooks. In this study, document analysis provided a major source for collecting data. Through a comprehensive review of literature and meeting with experts indicators for various aspects of a quality for textbook were identified. In order to get more clarity on listing indicators of quality textbooks, three cases of textbook evaluation/review processes, United States of America that follows decentralized, and Namibia and Philippines that follow centralized curriculum, were included in the study.
2. Latter on **description of the identified indicators** in the light of Garvin’s (1987) eight dimensions of quality products was made and shared with curriculum and textbook experts. As result of these meetings a detailed list of indicators of quality textbooks along with description of these indicators was finalized.
3. **Obtain consensus of experts** regarding identified criteria and indicators to be used for the evaluation of textbooks. Basically, it was a developmental study. In order to

determine the sample in developmental studies Sim & Wright (2000) recommend Judgmental Sampling Technique. Cohen et al. (2008) suggest this technique for studies like this study. According to them, 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 etc.” (p.115). Keeping in view the nature of the study and the kind of population involved in it, the Judgmental Sampling Technique was used for Curriculum and/or Textbook Experts. A total of twenty five (25) experts were included in the study with a balance representation of above-mentioned; textbook writers, curriculum developers, faculty of the departments of education teaching curriculum development and evaluation, and members of National Textbook Review Committees (NTRC) of the Curriculum Wing, Ministry of Education. Consensus on the identified list of the indicators of the quality textbooks was sought during the meeting by using the Delphi Technique. The experts were free to add or delete any indicator from the prepared list. In order to finalize the identified indicators, consensus among the experts and the key stakeholders was necessary. For this purpose, Cohen et al. (2008) recommend the Delphi technique. This technique is “particularly useful in institutions where time is precious and where it is difficult to arrange a whole group meeting” (Cohen et al., 2008, p. 309).

4. **Develop rubrics** with help of experts in the field of curriculum and textbook development and get validation of these rubrics from other experts of the same field.

IV. Review of Literature

If we look at textbook development and evaluation process in Pakistan, Since 1971 to 2000, development of Textbooks for classes I to XII has been the sole responsibility of the provincial Textbook Boards. Earlier the West Pakistan Textbook Board, Lahore and the East Pakistan Textbook Board, Dhaka played this role since 1962, the year of their establishment. The Textbook Boards receive the curriculum from the Ministry of Education. Textbooks related to higher education or for classes above XII are developed, published and marketed by private sector publishers or concerned universities. Increased attention has been paid also to quality of textbooks in the National Education Policy 2009.

Ascertain indicators of quality textbooks from literature

In order to identify list of indicators of quality textbooks, two cases of development and evaluation of textbook, one follows decentralized and other follows centralized curriculum, were studied.

Decentralized curriculum and textbook development

i. The case of Canada

Ontario Ministry of Education (2006) lists qualities of contents to be included in a textbook and its format, in a document titled “Guidelines for Approval of Textbooks”. For contents, the ministry identifies seven aspects: a) quality, b) reference to use of technology, c) health and safety, d) environmental responsibility, e) language level, f) instructional and

assessment strategies, g) bias; and for format. The ministry lists two main aspects: suitability for student use, and durability.

The ministry has also identified indicators for each of the above mentioned aspects. According to the ministry, quality of content refers to; a) sound scholarship and contemporary relevance of the content, b) adequate depth and sophistication of the information provided in the content, c) build learning area/subject/course and build on students' previous knowledge and skills, d) use of graphics appropriate to support students' understanding of the content. The use of technology refers to reflection of uses of technology related to the level/grade-wise, where appropriate in the content and allows students to use and develop technological skills. Health and safety refers to: a) attention to safe practices must be evident through appropriate warnings and information; b) portrayal of people in learning, working, and playing situations; and c) the suitability of the learning activities. For ensuring environmental responsibility, the content must reflect concepts of environmental responsibility, where appropriate, within the context of the grade-wise course. For language level, the ministry emphasizes on; a) appropriate language for the reading level of a particular grade and level, b) writing style appropriate for the learning area/ subject/ discipline, c) contextual use of language, symbols, and technical terms that are subject- or discipline specific and that student would understand. For instructional and assessment strategies: a) the content must support a broad range of instructional strategies and learning styles; b) the activities must be appropriate for the skills and knowledge described in the curriculum or learning expectations, and provide opportunities for students to engage in higher-order thinking and problem solving, to apply concepts and procedures, and to communicate their understanding; c) there should be a range of tasks – that is, open-ended tasks, teacher-directed tasks, and tasks for students to do independently; d) the connections between instructional strategies and assessment should be meaningful and should be consistent with the assessment strategies for the subject or course. The ministry explains bias as; a) the content must be free from racial, ethno-cultural, religious, regional, gender-related, or age-related bias; bias based on disability, sexual orientation, socioeconomic background, occupation, political affiliation, or membership in a specific group; and bias by omission. Here suitability for student use means that textbooks must be intended primarily for use by students, rather than for use by teachers. The organization should be logical and easy to follow to promote ease of comprehensibility. The ministry explains durability for textbooks by mentioning; a) textbook must be constructed of high-quality materials sufficiently durable to support frequent use by many students; b) for print materials, the size, weight, and shape of the textbook should be such that the textbook is easily transported with little risk of damage.

ii. The case of United States of America

The American Textbook Council¹ reviews educational materials. General review guidelines are often requested by curriculum supervisors, school boards, teachers and others in charge of the selection of textbooks. Some reviewers seek fully quantifiable standards, exact readability gauges, and "scientific" formulas. However, some fundamental are kept in mind while reviewing and evaluation of textbook².

¹ The American Textbook Council is an independent national research organization established in 1989 to review the history and social studies textbooks used in the nation's schools.

² Retrieve on August 2008 from <http://www.historytextbooks.org/review.htm>

a. Basic parameters for the matter presented in the textbook

Accuracy in information, fair and unbiased treatment to various groups in society, appropriate reading level for the students who will be using the material, the book has written in a clear and comprehensible manner, the book has written in a style that will be interesting and hold the student's attention, the review questions and other end-of-chapter exercises support the material presented in the narrative, the pictorial and sidebar materials are relevant to the subject matter.

b. Content and style

The council asks for evaluation and review of content and style, one must look at; a) systematic development of ideas, b) depth of the topics, c) liveliness of narrative in style and richness with experiences of people, d) correspondence between the narrative and the illustrations, sidebars, supporting biographies, or primary source references, e) literature included or referenced, and f) variety of primary sources included, either as a complete reference or in a meaningful excerpted passage.

c. Instructional activities

Here the council recommends analysis of e the instructional activities with respect to: a) opportunities provided for students to be actively engaged in the learning process, b) variety of and varied activities, c) students of differing abilities can find opportunities for success in learning the content, d) questions provided for students help students to analyze the information and to think critically; that is, to reflect, hypothesize, analyze, verify, synthesize, e) activities provide for curriculum integration and correlation, f) students have opportunity to discuss or debate ideas presented in the textbook, and g) activities become more challenging as the year progresses.

d. Evaluation and assessment materials

Examine evaluation and assessment materials with respect to: a) both formal and informal assessment strategies suggested, b) these suggested strategies enable students to hypothesize, analyze, and draw conclusions about the subject matter they are studying, and c) assessment strategies include student writing exercises.

Centralized curriculum and textbook development

i. The case of Philippines

Government of Philippines established National Book Development Board (NBDB) under a Republic Act with the foremost mandate to: a) formulate, adopt, and implement the National Book Policy and the National Book Development Plan; b) provide capability-building services for the agency's stakeholders, such as publishers, authors, printers, and other publishing entities that will need its support.³ NBDB reviews textbooks under textbook review service. Department of Education (DepED), Government of Philippines, selects and/or supplies only those textbooks to schools that have passed the content evaluation and quality production standards of the NBDB. The department also

³ National Book Development Board (2008). Annual Report. Manila, Philippines

responsible to publish a list sight words appropriate to specific grade levels in both English and Filipino to guide textbook writers. The Textbook Policy also focused on the following four major areas during content evaluation

- Coverage of Learning Competencies
- Accuracy of content (i.e., conceptual, factual, pedagogical, grammatical, etc.)
- Appropriateness of presentation, language, and visuals to target users, to society, and to culture
- Language used is grammatically correct and can be easily understood by target users

The DepED developed also manual of textbook style and standards to ensure quality of textbook in Philippines. The manual layout includes the following:

- “General and technical standards (size, paper stock, cover stock, preferred bidding)
- Cover specifications (use of logos, font, font size, general layout, qualifiers)
- Printing specifications (font types and size, suitable per grade level)” (DepED, Textbook Policy, 2004, p.6)

Major test of the textbooks in this evaluation is that textbooks are research-based and are aligned with the set Philippine Elementary learning Competencies (PELC) and Philippine Secondary School Competencies (PSSLC), i.e. the textbooks should conform to preset standards.

ii. The case of Namibia

National Institute for Educational Development (NIED), Ministry of Education, Namibia provides guidelines for textbook evaluation and approval in the country. A textbook after approval from the Ministry of Education, title of textbook is included in the “Textbook Catalogue” which is the official document of the Ministry of Education containing all approved titles of printed textbooks and teaching & learning materials to be used in Government schools for grades 1 to 12. The catalogue provides teachers with information on relevant, affordable and educationally sound teaching and learning materials.

NIED, Ministry of Education (2005), apart from prizing of the textbook, identified four major aspects of textbooks; a) physical characteristics, b) contents, c) pedagogical, and d) language levels.

For physical characteristics, NIED (2005) focuses three aspects; a) durability, b) typeface and size, c) layout and appearance, d) cost. In order to ensure that books are durable, to prevent continuous re-supply and to maintain standards for all suppliers, NIED has set minimum standards regarding a) paper (Bond 70 or 80 gm), b) binding (up to 120 pages – saddle-stitched in the centre of the pages & more than 120 pages – only thread-sewn). For Typeface and size, NIED (2005) focuses on relevance of the captions and labeling of illustrations and their clarity and largeness for learners intended. Regarding Layout and appearance, the NIED stresses upon textbooks with respect to aesthetic, general layout, width of margins, etc. For Cost point of view, the institute suggested

reasonableness of the cost and its comparability with respect to similar materials. (5 Yes or 1 No)

For content, NIED (2005) looks at consistency of the approach used in the book with the syllabus, extent to which a) relevant knowledge, skill, and objectives are catered for in the textbook, b) the content reflect current knowledge and culture, c) content of the book factually accurate, d) the textbook is free of biases unacceptable to teachers, learners, communities and the Ministry of Education policies, e) the materials reflect the contributions and perspectives of various ethnic and cultural groups where appropriate, f) the textbook free of sex stereotypes and encourage a positive attitude towards gender, g) the textbook encourage a positive attitude towards environmental and population issues.

For language levels, NIED scrutinize textbook with respect to a) their appropriateness of reading and comprehension levels for the learners who will be using it, and b) defining new and critical concepts in a glossary or explained when they are first introduced in the text.

From pedagogical aspects the NIED evaluates textbooks based on the extent to which, a) the content of the book likely to be clearly understood by the learners, b) the tests and other assessment devices (such as practice exercises, end-of chapter questions and other assessment devices, experiments, etc.) in the book are helpful to the teacher and learner, c) the design of the materials allows teachers to use them differently according to the needs of different learners, d) the textbook cater for skills development toward data analysis and problem solving, e) the use of the textbook or material easily manageable by the teacher, f) the book include activities that learners are capable of performing and will find stimulating, interesting and rewarding, g) the book use appropriate tables, diagrams, charts, sketches and photographs to explain the content, h) the book support learner-centred approach to teaching (assuming that this is the approach the national curriculum favours), i) the book of appropriate length, j) the use of the book or material easily manageable by the teacher, k) the book include activities that learners are capable of performing and will find stimulating, interesting and rewarding, and l) the book uses appropriate tables, diagrams, charts, sketches and photographs to explain the content.

iii. The case of Malaysia

Textbook Division, Ministry of Education, Malaysia (2009) along with focusing on the alignment of the contents with the curriculum, describes two important aspects of textbooks a) graphics and b) design of a textbook.

According to the Textbook Division (Ministry of Education, 2009), the graphics used in publishing textbooks must be suitable and fulfill the requirements of the subjects. The selection of graphics must match with the objectives of their use and meet the requirements of the subject. Graphics are largely used in writing textbooks on technical and scientific subjects because they facilitate clearer delivery of the contents, are more accurate, and are easily comprehensible. The graphics in textbooks are not intended to fill up empty spaces. According to the division of textbooks, the graphics in textbook publications function are to: a) deliver the message of the texts (concepts / facts); b) assist in understanding the texts; c) reinforce understanding of the texts; d) complement the texts; e) provide additional information; f) facilitate student's memory of important concepts / facts; g) enhance pupil's mind in learning; and f) provide aesthetic values

The Textbook Division divides graphics into three general categories, a) illustration, b) layout, and c) information graphics. Illustration refers to figures, photographs, and drawings used to channel information and emotional effects through images and not by words. The design of the whole book, based on the arrangement of the basic elements of design such as the principles of design, design structure, colour, bleed, and reverse make the design of the published material attractive. Information graph refers to charts, tables, maps, and diagrams used to channel information visually. The Textbook Division delineates characteristics of good graphics. The information graphic has content value – the visual functions of the graphics are able to; a) convey the expressed and implied meanings, b) precise information, and c) deliver information accurately.

According to the Textbook Division ‘design’ is a structured plan which encompasses the layout concept of a book. Design is an important factor which can differentiate one publication from another. It represents a layout which displays the texts, graphics or other materials in the pages of the book. The division ensures the quality design by stating, presentation format for the whole book must be structured, functional, clear, user-friendly and simple. Every space must be used to the optimum, taking into consideration the space that enables readers to rest their eyes. A good design can guide a reader’s eyes to read in sequence and differentiate the primary from the secondary materials. The design of a textbook takes into consideration the basic principles of creativity or creative arts in an ordinary design, which are balance, proportion, sequence, unity, easy and contrast. In designing textbooks, however, the aspects to focus on are the pedagogical requirements of the subject and its suitability to the target group. This ensures that the selected design is suitable. The design of the textbook must be consistent throughout the book so as to assist users in understanding the contents.

The literature suggested about eleven indicators for quality textbooks and these include: a) curriculum policy, b) content reliability, c) vocabulary, illustrations and format, d) horizontal and vertical alignment of the content, e) critical and creative learning, f) assessment and evaluation, and g) bias free. Later on, during meetings with experts four more indicators were identified and these are; h) curriculum scope, i) cognitive development, j) acceptability, and k) environment.

V. Garvin’s quality products framework for identification of quality textbook

Garvin has written a lot on quality, and quality products (see Garvin, 1985, 1986, 1987a, 1987b, 1988, 1991, 2001, 2005, etc.). He proposed a well-known framework for thinking about ‘product quality’ based on eight dimensions: a) Performance, b) features, c) reliability, d) conformance, e) durability, f) serviceability, g) aesthetics, and h) perceived quality of the product. Considering textbook as a product, in this paper indicators described for quality textbook are grounded in Garvin’s (1988) eight critical dimensions of quality that were considered by me as a framework for evaluation of textbooks. In the Table-1, I have described indication for a textbook to meet the requirements of a ‘quality product’ according to Garvin’s eight dimension of quality.

Table 1:

Description of indicators of quality textbook with respect to Garvin’s dimensions of quality product

Indicator	Description of the indicator according to Garvin for quality products	Description of the indicator for quality textbook
1 Performance	Primary operating characteristics e.g. speed, comfort, ease of use etc. for multiple performance features, and the relative importance of each.	Textbook's traits like help students in achieving the learning outcomes laid down in curriculum, and cater individual cognitive, social, cultural, religious, ethnic and other needs
2 Features	Extras, add-ons, or gimmick that enable a customer to somewhat customize a product.	Textbook's qualities including promote student thinking and suggests activities for further study through Teachers' Guide, Teaching Kit, E-material, and Assessment.
3 Reliability	Probability of a product malfunctioning or failing within a specified time period.	Expected usefulness of a textbook and nothing will be wrong with it within a time period for which it is being proposed. Textbook provides updated and accurate information-valid for the period for which it is prescribed, and offers clarity in conveying same meanings to every reader.
4 Conformance	Degree to which a product's design and operating characteristics meet to pre-established standards.	Extent to which a textbook meets pre-set standard; public and education policies, curriculum guidelines and objectives/ standards, national ideology and culture etc. The textbook also covers scope of the content given in the curriculum guidelines.
5 Durability	Length of time, or extent of use, before the product deteriorates and must be replaced; durability is a function of the product's operating environment and reliability. Durability has both economic and technical dimensions.	Economic dimension refers to physical state of textbook and technical dimension refers to content matter in textbook. Physical durability – paper quality and binding is acceptable, amount of use student gets from a textbook before it deteriorates, and guarantees content durability - matter in textbook, validity of information before it becomes obsolete
6 Serviceability	Speed, ease, and convenience of making maintenance work or repairs and the courtesy and competency of service people.	Textbook serviceability refers to review of textbook and its delivery in classroom. From review dimension, serviceability refers time to time review to keep the textbook valid without changing its basic structure and from delivery dimension; serviceability refers availability of the textbook's teacher guide for classroom instruction. It takes up: a) the review of textbook - fit for long term use through midterm and minor, reviews and updating, and b) availability and capacity of professionals and reviewers
7 Aesthetic	Look, sound, smell, feel, or taste of the product based on personal taste; though subjective, some aesthetic judgments tend to be common.	For textbooks aesthetic dimension refers title, layout, format, illustrations, and other graphics-acceptability with respect to age / level / relevant to content and context. Good looking title that attract students of the age and grad for which it has been developed. So esthetics of textbook includes: a) title, binding, font size, page layout/format and illustrations, and b) other graphics-acceptability with respect to age / level / relevant to content and context.
8 Perceived Value	Subjective opinion about the product based on images or attitudes formed by advertising and/or the reputation of the producer.	For textbooks, perceived quality refers to positive perceptions of teachers, parents, and students regarding textbook appearance, content and publication quality.

VI. Findings

Based on the features of quality textbooks derived from Garvin's eight dimensions of quality products model in table-1 and indicators delineated through review of literature and meeting with experts in this regard, description of indicators is given in following

pages. The identified indicators along with the description of theme were presented to a group of expert. The Delphi technique was used to obtain consensus of the experts. In this regard a Focus Group discussion was held. In the Focus Group meeting out of 25, twenty three experts participated from all over Pakistan including Azad Jamu and Kashmir. This group was drawn from selected experts with a balanced representation from all provinces, and AJK. In the meeting majority of the Ministry of Education staff also participated.

In the Focus Group the participation by the participants was good. They were very open even to talk about their own 'not good' processes. They also shared constrains they faced during textbook review and evaluation processes, especially non-availability of the kind of indicators shared with them by the researcher. As a result of discussion with focus group, description of the indicators was refined and one more indicator 'use of technology' was added in the list of indicators. As result of the exercise, following indicators, their key description, and compliance conditions along with rubrics for each the finalized compliance conditions were finalized for assessing the quality of a textbook.

Rubrics for Textbook Review⁴

For each of the compliance condition, rubrics have been identified at four levels. Each of these levels describes recommendations, as given below for the textbook to be evaluated.

Level 4: Completely fulfilling the compliance conditions with no revisions. Textbook approved

Level 3: Fulfilling the compliance conditions to a large extent, with minor revisions or refinement of material including assessment, exercises, activities and illustrations

Level 2: Partially fulfilling the compliance conditions, and need major revisions in textual material, including assessment, exercises, activities and illustrations

Level 1: Fulfills few or no compliance conditions and most sections require rewriting.

Table 2:

Compliance condition-wise rubrics for each of the indicators of a quality textbook

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
1-Curriculum Policy	Aligns with the constitution of Pakistan	Endorses the ideology of Pakistan based on Islamic values	Does not promote the ideology of Pakistan based on Islamic values as specified in the National Constitution of Pakistan	Partially promotes the ideology of Pakistan based on Islamic values as specified in the National Constitution, Need for including more	To a large extent promotes the ideology of Pakistan based on Islamic values as specified in the National Constitution need refinement	Fully promotes the ideology of Pakistan based on Islamic values as specified in the National Constitution.

⁴ These rubrics have been designed to review each chapter or section of a textbook /supplementary teaching and learning material against the indicators listed below. Each indicator has been described in detail with corresponding conditions for compliance defined for the four levels.

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
				references and examples/illustration		
		Promotes democratic citizenship	Does not promote democratic norms	Text and illustrations depict limited information and ideas to promote democratic norms	Text and illustrations depict information and ideas to promote democratic norms to a large extent with need for refinement.	Text, illustrations and activities fully promote democratic norms
		Encourages national cohesion and integration	Does not promote sense of patriotism, appreciation of the free enterprise system, and the respect for rights of other country fellows	Partially promotes sense of patriotism, appreciation of the free enterprise system, and the respect for rights of other country fellows.	To a large extent promotes sense of patriotism, appreciation of the free enterprise system, and the respect for rights of other country fellows	Fully promotes sense of patriotism, appreciation of the free enterprise system, and the respect for rights of other country fellows
	Matches intent and objectives of the Curriculum Policy of Pakistan	Aligns with national education policy	No (less than 30%) conformance with the national education policy	Limited (31-60%) conformance with the national education policy	Extended (61-80%) conformance with the national education policy	In full (more than 80%) conformance with the national education policy
		Corresponds to the National Curriculum Framework ⁵	Not meeting (less than 20%) guidelines of the National Curriculum Framework	To some extent meeting (21-40%) guidelines of the National Curriculum Framework	To large extent (41-90%) meeting guidelines of the National Curriculum Framework	Fully (more than 90%) meeting guidelines of the National Curriculum Framework
		Aligns with curriculum objectives	No alignment (less than 40%) with curriculum objectives	Limited alignment (41-60%) with curriculum objectives	To large extent (61-90%) aligned with curriculum objectives	Fully (more than 90%) aligned with curriculum objectives
2-Curriculum Scope	Covers scope of the content mentioned in the curriculum	Covers the depth of the content given in the curriculum document	In complete (less than 40%) coverage of the scope of the contents	To some extent (40 to 70) coverage of the scope of the contents	To large extent (71 to 95%) coverage of the scope of the content	Complete (more than 95%) coverage of the scope of the content
		Covers all aspects of the curriculum	Lists set of expectations to be covered in the chapter/unit of textbook	In addition to Level 1 provides end of chapter/unit assessments to measure these	In addition to levels 1&2 provides activities / patterns to encourage understanding	Includes levels 1,2 &3 and provides logical linkages of the activities in line with expectations and

⁵ This will apply to Pakistan when the Curriculum Framework is developed and implemented

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
					the concepts which are in line with expectations and assessments patterns	assessments
3-Text Reliability, Accuracy, Validity	Provides up to date, credible and correct information for the period for which it is to be prescribed (<i>durability</i>)	Provides examples and illustration from latest and relevant data. Relevance of stories, narratives, and illustrations.	Less than 50 % information is accurate and has to be supported by updated supplementary materials.	50 to 70% information used in the text is accurate	More than 71-90% information in the text is accurate	100% information in the text is accurate with reference of sources
	Free of misconceptions text (<i>reliability</i>)	Interprets data with self explanatory illustrations and metaphors	Not relevant examples and illustrations	Partially relevant and unambiguous line diagrams along with examples and illustrations	Relevant examples, illustrations and line diagrams that are free of misconceptions	Relevant and clearly interpreted data and self explanatory illustrations and metaphors
	Provides Laboratory Experiences (<i>conformance</i>)	Encourages use of laboratory experiences	Requires no exposure to laboratory experiences for students	provides inadequate laboratory experiences for students, or alternatives to laboratory experiments	Provides adequate laboratory experiences for students, refinement required.	Provides high quality laboratory experiences for students. The labs are extensive, varied and promote student inquiry
	Usable at least for the period of curriculum revision cycle without making major structural changes in it (<i>serviceability</i>)	Structure of the textbook based on concept-building Use classic examples and less new examples to explain the content	No essential attributes that highlight the concept No classic example, more new examples that might change rapidly with the passage of time	Provides appropriate but insufficient essential attributes that distinguish the concept. Limited classic examples, more new examples that might change rapidly with the passage of time	Provides appropriate and sufficient examples of the concept that are accurate and related to the essential attributes, need for refinement. Appropriate classic example and new examples that might change rapidly with the passage of time	Provides appropriate sufficient examples of the concept that are accurate and related to the essential attributes. Appropriate classic examples, less new examples that might not change rapidly with the passage of time
	High levels	Who the author(s) of	Author is a credible	Author is a credible	Author is a national	Author is a national

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
	academic credential of authors (<i>reliability</i>)	the resource is (are).	local 'voice' with no demonstrable writing experience.	national 'voice' – he/she has limited writing experience with one or two samples	'credible voice' – he/she is consistent in writing with more than 2 published samples	'credible voice' – he/she is consistent in writing with more than 3 published samples of approved textbooks
4- Vocabulary, Illustrations & Format	Uses words from graded vocabulary and defines new terms (<i>conformance</i>)	Vocabulary is functional, thematic, authentic, and practical.	Vocabulary is much higher/lower than the level for which Textbooks has been written	Vocabulary at the level for which Textbooks has been written	Vocabulary is one step down the level for which Textbooks has been written	Vocabulary is two steps down the level for which Textbooks has been written, along Glossary of subject terminology & new words (other than textbooks for languages)
		New words and language structure in language Textbooks, in each unit/chapter	New words and language structure in language Textbooks, more than 15% in each unit/chapter	New words and language structure in language Textbooks, more than 10% in each unit/chapter	New words and language structure in language Textbooks, about 10% in each unit/chapter	New words and language structure in language Textbooks, less than 10% in each unit/chapter
		An appropriate language style and level for presenting the information.	Incorrect symbols, graphics, and diagrams those are subject-related	Correct symbols, graphics, and diagrams those are less than 50% subject-related	. Correct symbols, graphics, and diagrams those are more than 50 and less than 90% subject-related	100% Correct symbols, graphics, and diagrams are subject-related
	Contains illustrations from local environment and allied with text (<i>Perceived Quality</i>)	Opportunities for students to "see themselves" reflected in the materials through examples, illustrations, and readings.	No example, illustrations, name, picture, etc. from local context. Poorly drawn illustrations	Little number (less than 30%) of examples illustrations, name, picture, etc. are from local context	Adequate number (more than 30 but less than 70%) of examples illustrations, name, picture, etc. are from local context	Majority (more than 70%) of examples illustrations, name, picture, etc. are from local context
	Contains good quality photographs and sets attractive	General appearance of the textbook is attractive and inviting	Format is not visually appealing and inappropriate for the level	Format is visually adequate but lacks appeal for the age level	An attractive book that engages the students but needs refinement to	The use of illustrations, photos, maps, graphs and other visuals to enhance the text.

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
	title, page and font size, page layout, and color according to grade <i>(aesthetics)</i>				come up to level 4	Durable binding, and proper grammage of paper according to size and grades
5- Horizontal and vertical alignment of the text	Uses sequential activities, content of the same grade books for explanations, examples, and exercises and provides challenging but enjoyable exercises <i>(performance)</i>	Activities that help students make connections among the subjects being taught at a particular level	No use of use of sequential activities	Uses sequential activities and content of the same grade books for explanations. There is need for more challenging and age relevant interest based activities	Uses sequential activities, content of the same grade books for explanations, examples, and exercises with a few challenging activities, need for refinement	Uses sequential activities, content of the same grade books for explanations, examples, and exercises and provide challenging and enjoyable exercises
	Creates links of the content with one grade below and above <i>(conformance)</i>	Tests previous knowledge activities that require students to recall previously learned concepts, definitions, etc. at the start of each section.	Does not test Previous Knowledge activities that require students to recall previously learned concepts at the beginning of each section.	Limited material to test previous knowledge activities that require students to recall previously learned concepts, definitions, etc. at the beginning of each section	Tests previous knowledge activities that require students to recall previously learned concepts, definitions, etc. at the beginning of each section. New concepts are presented in logical and sequential way	Test Previous Knowledge activities that require students to recall previously learned concepts, definitions, etc. at the beginning of each section. New concepts are presented in logical and spiral way
	builds upon prerequisite skills and ideas Connects to everyday experiences and prior learning <i>(feature)</i> <i>(conformance)</i>	Opportunities to make connections between concepts within the subject as well as to connect the learning to other subject areas with examples those are familiar to the students.	Presents activities that have no link with students' prior learning	Present activities that relate to the student's environment. and prior learning, need for creating links with real life examples	Present activities that relate to the student's environment. and prior learning, Introductions to chapters, sections, activities that require students to recall real-life examples before introducing new ideas, need for refinement.	Present activities that relate to the student's environment. and prior learning, Introductions to chapters, sections, activities that require students to recall real-life examples before introducing new ideas and concepts. Activities that

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
						clearly scaffold learning.
6- Critical and Creative Learning	Presents materials and exercises / questions at a variety of cognitive levels (<i>performance</i>)	A range of activities that require students to carry out authentic learning opportunities including tasks those are appropriate to the subject.	Low range of activities at various levels of cognition	Medium range of activities touches various level of cognition	Appropriate range of activities touches various level of cognition along with quality of review questions reflects higher level thinking skills, need refinement.	Highly appropriate range of activities touches various level of cognition along with quality of review questions reflects higher level thinking skills and provides research-based open-ended tasks
	Encourages by applying relevant contexts, experiences, phenomena and thinking over (<i>feature</i>)	Activities that require students to analyze data.	No activities that require students to use creative thinking skills.	Limited activities that require students to use creative thinking skills and communicate their learning.	Activities that require students to use creative thinking skills and communicate their learning, need refinement.	Sufficient activities that require students to hypothesize, analyze, and make conclusions and generalizations and suggests activities for further study;
		Activities that ask for students to consider their actions and the consequences of them.	No open-ended tasks that require students to - solve. Problems	Tasks that require students to collaborate in problem-solving activities.	Open-ended tasks that require students to problem-solve, possibly using a model.	Open-ended tasks that have content validity and require students to problem-solve, possibly using a model.
	Provides opportunity to think critically about controversial issues (<i>aesthetics</i>)	Activities that encourage students to role-play, debate, write about, and in other ways think about controversial issues.	No use of role play debates materials and activities to address sensitive/controversial issues	End of chapters or units that encourage students to role-play, debate, write about, and in other ways think about controversial issues.	Culminating tasks that encourage students to role-play, debate, write about, and in other ways think about controversial issues, need for refinement	End of chapters, units, or asintegrated tasks that encourage students to role-play, debate, write about, and in other ways think about controversial issues.
7- Technology	Provides opportunities to incorporate student use of technology (<i>durability</i>)	Encourage use of technology	No focus on the use of technology.	Use of technology indicated but not integrated.	Provides opportunities for use of technology and integrates with activities	Provides and encourages the integration of technology and content.

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
		Activities that require students to learn aspects of technology directly; e.g. learning a specific piece of software.	No activities that require students to use technology in problem-solving; e.g., calculators	Activities that require students to use technology in problem-solving, information gathering; e.g., calculators, simple graphing programmes	Activities that require students to use technology in problem-solving, information gathering, and communicating; e.g., calculators, simple graphing programmes, word processing, puzzle solving activities.	In addition to level 3 activities that require students to use electronic media for research.
8-Assessment and Evaluation	Allows for the authentic demonstration for learning at all levels (reliability)	Exercises/ end of chapter questions at least one for each Specific Learning Objectives through a variety of questions and opportunities for students to reflect on their work.	Lacks a variety of authentic student demonstrations of learning, only recall questions	Partially supports a variety of authentic student demonstrations of learning, that range from simple recall to understanding questions	To a large extent supports a variety of authentic student demonstrations of learning, that range from simple recall to questions that require students to apply their understanding	Fully supports a variety of authentic student demonstrations of learning. that range from simple recall to questions that require students to communicate the results of problem-solving, analysis, critical thinking, etc
		Opportunities for students to demonstrate their learning in a variety of ways throughout the entire course.	No opportunities for students to demonstrate their learning through tests.	Opportunities for students to demonstrate their learning through tests.	Opportunities for students to demonstrate their learning through tests, and presentations	Opportunities for students to demonstrate their learning through tests, performance, projects, and presentations; and opportunities for students to create tasks that allow them to demonstrate their work..
9-Bias Free	Free from Gender, Ethnic, Religious, Sectarian, Geographical, Cultural, Occupational biases	Conformity to social & cultural norms	Discriminates against sex, race, ethnic, creed, parental status, physical conditions, and/or stereotyping.	Exhibits bias to more than one of the protected categories.	Exhibits bias to at least one of the protected categories.	Does not discriminate against sex, race, ethnic, creed, parental status, physical conditions, and/or stereotyping.
		Covers a	Pronouns and	Limited number	Pronouns and	In addition to

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
	(<i>performance</i>)	spectrum of accomplishments and contributions by all sexes, ethics groups and	descriptors of both sexes are not used equally	of pronouns and descriptors of both sexes are used equally Nouns, adjectives, terms and illustrations are non-stereotypical and non-prejudicial	descriptors of both sexes are used equally and nouns, adjectives, terms and illustrations are non-stereotypical and non-prejudicial, need refinement.	level 3, no feeling of exclusion, estranged or social diminishing of students of either sex and various cultures and physical conditions excluded
		Free from minority, sectarian and regional biases.	Portrays only one culture.	Provides meaningless multicultural experiences.	Provides partially meaningful multicultural experiences.	Provides fully meaningful multicultural experiences.
	Presents different points of view/contributions (<i>performance</i>)	Different points of view in various stories, narratives, information text, etc. to show diversity and allows for inclusion	No use of inclusive language.	Limited use of inclusive language.	Use of inclusive language but presents only one side of a controversial issue	Use of inclusive language and presentations of both sides of a controversial issue
	Sensitivity to People with Disabilities	Sensitive to students with physical, mental, emotional, or learning disabilities	Does not portray people with disability.	Meaningless attempt to include people with disabilities	Meaningful attempt to include people with disabilities	Is sensitive to people with disabilities and portrays them as valuable members of society.
10- Environment	Considers safety and/or environmental concerns (<i>durability</i>)	Safety warnings for students that may be written and/or expressed symbolically.	Text and Illustrations do not show considerations for safety or environment concerns	Text and illustrations infer activities those are safe for students. There is need to include direct references to safety and environment friendly concerns	Text and illustrations activities are environment friendly and promote safety concerns, need for refinement	Text material, activities, and illustrations that demonstrate safety, care, and respect for the environment
11- Teacher Guide and other learning materials	Accompanied by teacher guide, e-material, learning aids and assessments	provide information on scope and sequence of the book	Materials provided without directions.	Suggested lessons indicating goals for the lesson.	Organized lessons without incorporating teacher materials	Organized structures clear directions and expectations, background information, meaningful resource

Indicators	Key description	Compliance conditions	Level 1	Level 2	Level 3	Level 4
	<i>(feature)</i>					materials
		Features that provide information on various aspect to support teaching learning processes	Provide information on assessment only.	Provides information on assessment and teaching strategies	Provides information on assessment and teaching strategies, and plan to accommodate students learning styles.	Provides information on assessment and teaching strategies, and plan to accommodate students learning styles and other related resources.

VII. Conclusion

Relatively little research has been conducted on the textbook evaluation process both in Pakistan and elsewhere. This is surprising given that textbooks are the significant part of the teaching learning process for both students and teachers all over the world; nevertheless, relatively less work has been done to provide a strong research base to the field. In this study effort was made to explore processes of textbook development and evaluation/review of the countries following either centralized/national curriculum or regional curriculum based on national standards of education. The prime objective of this exploration was to develop a list of indicators that are recommended by majority of the experts and are followed in textbook development in various part of the world.

This study was relatively unique in the field of textbook development and evaluation/review in a sense that it did not only review the prevailing practices around the globe but also came up with a concrete list of indicators along with rubrics to gauge the indicators. Education culture of Pakistani system is not research oriented. In view of the context of the study, although I faced difficulties and obstacles, in spite of all this, the study generates new knowledge in the context of key indicators along with rubrics to evaluate textbooks in Pakistan. Owing to socio-cultural and political diversities, the indicators identified in this study may not be exactly used in other countries but these may provide baseline for further study in regard to textbook evaluation their own contexts.

Bibliography

- Bell, J. (2005). *Doing your research project (5th ed.)*. Milton Keynes: Open University Press.
- Bhatti, Ahmad M., & Dr. (1994). (unpublished). *Preliminary Report on the Process of curriculum Development and Delivery*. Islamabad: Ministry of Education, Govt. of Pakistan.
- Cohen, L., Manion, L., & Morrison, K. (2008). *Research Methods in Education*. New York: Routledge
- Department of Education (DepEd) Philippines (2004). Textbook Policy. Manila
- Donovan, C. A., & Smolkin, L. B. (2001). Genre and other factors influencing teachers' book selections for science instruction. *Reading Research Quarterly*, 36, 412-440.
- Fraenkel, J. R. & Wallen, N. E. (2006). *How to design and evaluate research in Education (6th Ed.)*. New York: McGraw Hill
- Garvin, D. A. (1985). *Product Quality: Profitable at Any Cost?* The New York Times (March 3, 1985).
- Garvin, D. A. (1986). Quality Problems, Policies, and Attitudes in the U.S. and Japan: An Exploratory Study. *Academy of Management Journal*.
- Garvin, D. A. (1987a). *Cases in Business Decision-Making*. Education Development Center, Inc.: Dryden Press, 1987.
- Garvin, D. A. (1987b). Competing on the Eight Dimensions of Quality. *Harvard Business Review* 65 (6), 99-110).
- Garvin, D. A. (1991). *Operations Strategy: Text and Cases*. New York: Prentice Hall,
- Garvin, D. A., and Michael A. Roberto. (2005). Change Through Persuasion. *Harvard Business Review* 83(2), 104-112.
- Garvin, D. A., and Michael A. Roberto.(2001). What You Don't Know About Making Decisions." *Harvard Business Review* 79(8), 108-116.
- Garvin, D. A., Christensen, C. R. and Sweet, A.(eds). (1991)*Education for Judgment: The Artistry of Discussion Leadership*. Boston: Harvard Business School Press.
- Garvin, D.A. (1988). *Managing Quality: The Strategic and Competitive Advantage*. New York: Free Press.
- Government of Pakistan (1975). The West Pakistan Publication of Textbooks (Regulation And Control) Ordinance, 1970, (W.P. Ordinance XXVII of 1970). Islamabad: Ministry of Law.
- Government of Pakistan (1976). *The Federal Supervision of Curricula, Textbooks and maintenance of Standards of Education Act 1976*. Ministry of Education Curriculum Wing, Islamabad
- Government of Pakistan (1987). *Central Bureau of Education: Organization, Functions and Achievements*. Islamabad : Central Bureau of Curriculum .
- Government of Pakistan (1994). *Preliminary Report on the Process of Curriculum Development and Delivery*; Secondary Education Reforms Program Preparation; The World Bank, Islamabad.
- Government of Pakistan (1995). *Report on National textbook Conference, Islamabad (February 14, 1995)in collaboration with Multi-Donor Support Unit for Social Action Programme*. Ministry of Education, Curriculum Wing: Islamabad
- Government of Pakistan (1999). *National Bureau of Curriculum and Textbooks (Curriculum Wing): Organization and Functions* Ministry of Education Islamabad

- Govt. of Pakistan (1992). *National Education Policy-1992*. Islamabad: Ministry of Education.
- Govt. of Pakistan (1998). *National Education Policy-1998-2010*. Islamabad: Ministry of Education
- Govt. of Pakistan (2000). *Mathematics Curriculum 2000 for classes K & I-V*. Islamabad: Ministry of Education, Curriculum Wing.
- Govt. of Pakistan (2002). *National Curriculum Education for IX-X*. Islamabad: Ministry of Education, Curriculum Wing
- Hussian, M. M. & Mahmood, K. (2002). *Aazad Jumu and Kashmir Textbook Evaluation*. Unpublished Study Commissioned by World Bank. Islamabad: SEMIOTIC International
- John, St. M. (2001). *The Status of High School Science Programmes and Curricular Decision-Making*. Inverness, CA: Inverness Research Associates.
- Ministry of Education (1994). *Report on National textbook Conference, Karachi (September 4-6, 1994) in collaboration with Provincial Education Departments & donors*. Curriculum Wing, Islamabad
- Ministry of Education, Government of Pakistan. (1994). *Report on National Textbook Conference, Islamabad*.
- Ministry of Education, Government of Pakistan. (1995) (Unpublished). *Secondary Education Reforms, Digest of Phase-2 studies*. Islamabad.
- Ministry of Education, Govt. of Pakistan. (1992). *National Education Policy*. Islamabad: Planning and Policy Wing
- Ministry of Education, Govt. of Pakistan. (1998). *National Education Policy 1998-2010*. Islamabad: Planning and Policy Wing
- Ministry of Education. (2006). *Green Paper on Textbook and Learning Materials*. Islamabad: Policy and Planning Wing
- National Institute for Educational Development (NIED) (2005). *Guide for the submission and evaluation of textbooks and learning materials curriculum panels/ committees*. Okahandja: Ministry of Education, Republic of Namibia.
- O'Donnell, S., Greenaway, E. LE Metais, J., and Micklethwaite, C. (2001). International Review of Curriiculum and Assessment Frameworks Archive. (Online) at <http://www.inca.org.uk>.
- Peacock, A., & Gates, S. (2000). Newly qualified primary teachers' perceptions of the role of text material in teaching science. *Research in Science and Technological Education, 18*, 155–171.
- Sheldon, L.E. (1988). *Evaluating English Language Teaching textbooks and materials*. *ELT Journal* 42 (4), 237-246.
- Shymansky, J. A., Yore, L. D., & Good, R. (1991). Elementary school teachers' beliefs about and perception of elementary school science, science reading, science textbooks, and supportive instructional factors. *Journal of Research in Science Teaching, 28*, 437–454.
- Sim, J., & Wright, C. (2000). *Research in Health Care: Concepts, Design and Methods*. New York: Nelson Thorns.
- Tyson, H. (1997). *Overcoming Structural Barriers to Good Textbooks*. Washington: National Education Goals Panel.