

A Review of the
Primary School Curriculum,
Textbooks and Teacher Guides
in Punjab

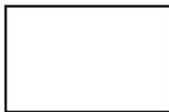
March 2013



Society for the Advancement of Education (SAHE)

A Review of the Primary School Curriculum, Textbooks and Teacher Guides in Punjab

March 2013



Contents

Acknowledgements	0
Acronyms	0
1. Introduction	0
2. Research Design & Methodology	0
3. Overview of the New Primary Curriculum	0
4. Gaps and Errors in New Textbooks in terms of Student Learning Outcomes	0
4.1 Grade 1 textbooks	0
4.2 Grade 2 textbooks	0
4.3 Grade 3 textbooks	0
4.4 Grade 4 textbooks	0
5. Alignment of New Textbooks with the New Curriculum	0
5.1 Textbook Development	0
5.2 Analysis of Textbooks	0
6. Development of Teacher Guides	0
6.1 Background	0
6.2 Analysis of Teacher Guides	0
7. Summary and Conclusion	0
Annexure	
1. Teacher Data	0
2. Study Tools for Textbook Analysis	0
3. Study Tools for Teacher Guide Analysis	0
4. Publication of New Textbooks	0

Acknowledgements

The Society for the Advancement of Education (SAHE) has been involved in conducting research on educational issues over the past decade. In particular, government educational institutions and their programs have been evaluated to provide evidence based policy recommendations for bringing about an improvement in the provision of public sector education. This study has been undertaken by SAHE's Teacher Education Program to assess the degree of alignment between the new textbooks and teacher guides in the context of the new curriculum 2006-07.

We would like to thank the team of researchers from SAHE, Ms. Sobia Tahir and Khadija Nawaz who designed the research tools and analysed the data. We also thank the field research team who visited the schools in the districts to administer the research tools.

We are especially grateful to Ms. Ayesha Awan, Research Advisor to SAHE for giving expert input into the analytical design of the study and support to the research team.

And finally we are grateful to the head teachers and teachers of schools visited for providing us with the requisite information.

Fareeha Zafar

March 2013

Acronyms

BA	Bachelor of Arts
BEd	Bachelor of Education
CARE	CARE Foundation
CT	Certificate of Teaching
DSD	Directorate of Staff Development
GIZ	Gesellschaft für Internationale Zusammenarbeit
MA	Master of Arts
MSc	Master of Science
MDW	Material Development Wing
PST	Primary School Teachers
PTC	Primary Teacher Certificate
PTBB	Punjab Textbook Board
SLO	Student Learning Outcome
SOP	Standard Operative Procedures

1. Introduction

Introduction of a New Curriculum in 2006 and subsequently a National Textbook and Learning Materials policy in 2007 are attempts under the Education Sector Reforms in Pakistan to create space for improvement in teaching-learning materials and to provide a break from the system of rote and traditional learning. With the promulgation of the 18th Amendment in 2010, provinces now have control over interpreting the curriculum and freedom to develop textbooks without approval from the National Curriculum Board. Most teaching and learning in schools is based on textbooks, provided free to teachers and students in the Punjab. Since the adoption of the new curriculum the content and design of textbooks is also undergoing changes.

To support teachers in the classroom, the Directorate of Staff Development (DSD) Punjab developed a series of Teacher Guides that include lesson plans in three subjects English, Science and Math.¹ These are designed according to the Student Learning Outcomes given in the National Curriculum 2006-7. A recent study² shows the limited success of the teacher training program for primary school teachers based on the Teacher Guides. The study also points to issues of teachers' inability to make a connection between different teaching-learning materials.

The context for this study is, therefore, to examine the linkages and extent of alignment between the curriculum, teacher guides and textbooks that form the combination of teaching-learning resources teachers are expected to use in the Punjab. Its findings are likely to have critical policy and advocacy implications for the Government of the Punjab and the School Education Department.

¹ For English and Math Grades 1-5 and for Science Grades 4&5

² Effectiveness of the Continuous Professional Development Program: Directorate of Staff Development, SAHE 2012

2. Research Design & Methodology

The research design for reviewing the Curriculum, Teacher Guides and Textbooks includes a comparison of the old and new curriculum goals, objectives and strategies, gaps and errors in the new textbooks in terms of student learning outcomes, and the development of templates based on the parameters and guidelines given in the curriculum for designing the teacher guides and textbooks. The views of teachers and students were ascertained by visits to schools to collect data and to identify key issues faced by them in the lack of alignment between the curriculum, teacher guides, and textbooks. Data has been collected from 102 teachers teaching primary grades from 18 government schools in three districts namely Lahore, Pakpattan and Lodhran. These districts are representative of different levels of development.

Selection of respondents

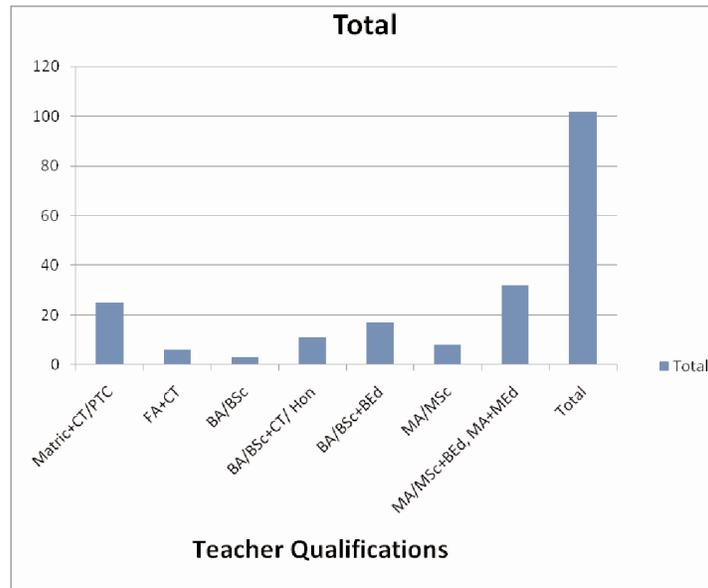
Teachers selected as respondents for providing feedback on the teacher guides are those teaching the primary grades, however, they have been selected from different school levels to ascertain the views from a wide cross-section of teachers. At the same time, more teachers were selected from primary schools (45%) and more were female (64%).

Table 1: Teachers teaching Primary Grades in Different Level Schools

District	Primary School (46)		Elementary School (24)		High School (32)		Total Teachers
	Male	Female	Male	Female	Male	Female	
Lahore	4	10	–	–	–	13	27
Lodhran	12	3	5	14	–	–	34
Pakpattan	3	14	5	–	8	11	41
Total	19	27	10	14	8	24	102

Teacher data shows teachers with various qualifications teaching at the primary level. The government directive that new applicants require at least a BEd degree for selection as primary school teachers was issued in 2003-4. In our sample, the largest number of teachers that is 32 or 31.4% is highly qualified with MA/MSc plus BEd or MA plus MEd degrees. However, almost one-fourth are Matriculate (10 years of schooling), with an additional teaching certificate, evidence that teachers with lower qualifications remain in the system and continue to teach. (Figure 1)

Figure 1



Almost 22% teachers have specialized in a particular subject, of these, half are based in Lahore. Of the 102 teachers for whom data was collected 46 teachers are subject teachers, the rest that is 56 are class teachers. Subject teachers are appointed mostly for teaching English, Math and Science. The addition of qualifications such as a masters degree makes teachers eligible for salary increments and as such bears no connection with the specialization and the subject being taught. Thus, in six cases, there is no correlation between the teacher's

specialization and what s/he is teaching to primary grades. (See Annex 1)

School Selection

In each district six schools were selected, three boys and three girls schools including primary, elementary and high schools, from rural and urban areas. Data collection tools included structured and semi-structured questionnaires, checklists and focus group discussions.

Table 2: Schools by Location, Gender and Level

	No. of Schools	Urban Schools	Rural Schools	Coed Schools	Boys Schools	Girls Schools	Primary Schools	Elementary Schools	High Schools
Lahore	6	3	3	5	–	1	4	–	2
Lodhran	6	3	3	–	3	3	3	3	–
Pakpattan	6	3	3	–	3	3	3	1	2
Total	18	9	9	5	6	7	10	4	4

Documents Reviewed

The documents reviewed for the study include the New Curriculum 2007, all textbooks developed according to the new curriculum for the primary grades and the

teacher guides developed in 2011.

The design and process followed for data collection is given separately in each section.

Table 3: Documents Reviewed

Grades	Curriculum 2007	New Textbooks 2010-2012	Teacher Guides 2011
Grade 1	<ul style="list-style-type: none"> • English • Math • Gen. Knowledge • Urdu 	<ul style="list-style-type: none"> • English • Math • Gen. Knowledge • Urdu 	<ul style="list-style-type: none"> • English • Math
Grade 2	<ul style="list-style-type: none"> • English • Math • Gen. Knowledge • Urdu 	<ul style="list-style-type: none"> • English • Math • Gen. Knowledge • Urdu 	<ul style="list-style-type: none"> • English • Math
Grade 3	<ul style="list-style-type: none"> • English • Math • Gen. Knowledge • Urdu • Islamiat 	<ul style="list-style-type: none"> • Math • Urdu • Islamiat 	<ul style="list-style-type: none"> • English • Math
Grade 4	<ul style="list-style-type: none"> • English • Math • General Science • Urdu • Islamiat • Social Studies 	<ul style="list-style-type: none"> • General Science • Social Studies 	<ul style="list-style-type: none"> • English • Math • Science
Grade 5	<ul style="list-style-type: none"> • English • Math • General Science • Urdu • Islamiat • Social Studies 		<ul style="list-style-type: none"> • English • Math • Science

3. Overview of the Primary Curriculum

The first National Curriculum in Pakistan was developed in 1975-76; which was further reviewed in 1984-85 and then in 1994-95. The next review took place during 2000-2002 and the most recent in 2006-2007. The main objective was to make the curriculum more vibrant and responsive to the modern, socio-economic, technical, professional and labor market needs of the country. It was also targeted to make it comparable with international standards.

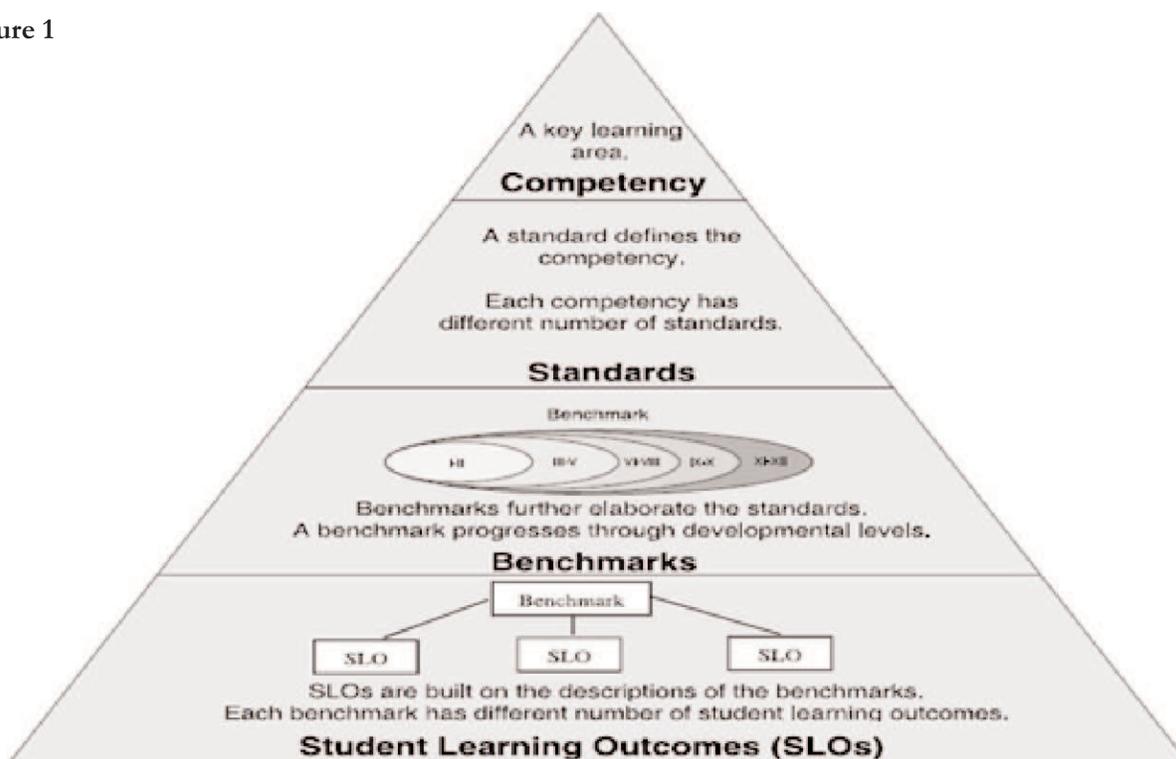
The new curriculum aims to provide holistic opportunities to the students for language development and to equip them with competencies in using the English language for communication in the academic and social context. The curriculum is fundamental to providing education in all subjects and provides a systematic approach to students learning in all subjects in a well defined and organized framework.

Strategies adopted for designing the New Curriculum include:

- Identification of Strands, Standards and Benchmarks
- Preparation of detailed contents (SLOs)
- Preparation of Evaluation scheme
- Working out resources required for effective implementation
- Prepare students to critically address social, economic, ethical and environmental issues
- Encourage students at all grade levels to develop a critical sense for wonder and curiosity

In particular the New Curriculum has focused on the learning of skills and competencies of students. (Figure 2)

Figure 1



Process followed for Curriculum Development

A Curriculum Review Committee and sub-committees for different subjects were established at the start of the process of curriculum development. This was followed by holding of Training Workshops on Curriculum Development. An analysis of the curricula of Australia, Senior Cambridge & HSC courses, Korea, Ontario, Malaysia, Hong Kong, and of various States of USA was conducted, including a comprehensive analysis of the learning outcomes in Pakistan. A need assessment was carried out based on views of teachers, students and other stakeholders such as the Punjab Textbook Board. The conclusion reached was that there was a need to reduce overcrowding in the syllabus, develop better linkages between subjects, equip students with skills, and ensure that the examination system supported learning.

Specific Goals of the National Curriculum 2006-7 :

- The main goal is the achievement of scientific and linguistic literacy for all

- It is proposed that teachers know their students well enough to adapt teaching methodologies so that all students learn
- Standards, Benchmarks and Learning Outcomes provide a map for students to establish their own goals for learning
- Teachers should be able to develop teaching methodologies with improved content and assessment
- Institutions of education should be able to refine programs for learning through inquiry
- Committees of teachers and specialists are established to assess the curriculum and suggest improvements
- Textbook Developers are able to create materials
- Test writers are enabled to develop appropriate materials and assessment techniques
- Institutions of higher learning are brought on board to prepare teachers
- Researchers are part of the team to identify areas where further studies are needed

A comparative analysis of old and new curriculum is given below:

	<i>Emphasis in the Old Curriculum</i>	<i>Emphasis in the New Curriculum</i>
1.	Developing science programs at different grade levels independently of one another	Coordinating the development of the K-12 science program across grade levels
2.	Using assessments unrelated to curriculum and teaching	Aligning curriculum, teaching, and assessment
3.	Textbook- and lecture-driven curriculum	Curriculum that supports the variety of components, such as laboratories emphasizing inquiry and field trips
4.	Broad coverage of unconnected factual information	Curriculum that includes natural phenomena and science-related social issues that students encounter in everyday life
5.	Treating science as a subject isolated from other school subjects	Connecting science to other school subjects, such as mathematics and social studies
6.	Assessing what is easily measured	Assessing what is most highly valued
7.	Assessing scientific knowledge	Assessing scientific understanding and reasoning
8.	Assessing to learn what students do not know	Assessing to learn what students do Understand
9.	Assessing only achievement	Assessing achievement and opportunity to learn
10.	End of term assessments by teachers	Students engaged in ongoing assessment of their work
11.	Development of external assessments by experts alone	Teachers involved in the development of external assessments

The New Curriculum focuses on:

- **Scientific Inquiry:** Questioning, Observing, Predicting etc.
- **Problem Solving:** Proposing, Creating, Testing etc.
- **Decision Making:** Evaluation of possible solutions
- **Student-Centred:** Students engaged in learning with every day materials
- **Outcomes-Focused:** Well-defined outcomes

With the changes introduced in the New Curriculum there is expectation that:

- Teachers and schools will become clear about the goals of education and will work according to a curriculum that is not overcrowded ensuring time and space for innovative and creative teaching and learning.

- Students will get higher standards of achievement, better progression and more enjoyment in learning.
- Parents will get an understanding of learning opportunities and expectations from children.
- Education system will assume responsible for ensuring achievement of the purposes and principles set out in the curriculum and a commitment to a continuing program of the revision of the curriculum.
- Society will get confidence that children and young people are enabled to reach the highest levels of achievement as successful learners, confident individuals, responsible citizens and effective contributors to society and the work place.

Since 2009, the Punjab Examination Commission has made the new curriculum the basis for designing its assessment of Grade 5 students.³

³ The Punjab Examination Commission (PEC) compiled the National Curriculum from grade 1-5 in one document for six subjects. The National Curriculum is divided by subjects with detailed introduction, goals, aims, strands, standards, benchmarks, competencies, SLOs, assessments and guidelines for developers of textbooks and teacher guides; however, PEC has excluded aims, goals, etc. and focused on the content, competency, benchmarks and SLOs and some selected guidelines and brain storming activities along with SLOs for six subjects in one document. We have compared the new textbooks and the PEC compiled SLOs, and they are similar across the subjects and grades. The only exception is the textbook for science for grade 4 for which in two lessons 'understanding ourselves' and 'matter and its states' there are 4 extra SLOs:

- Describe causes, major symptoms and preventive measures for dengue fever.
- Develop awareness about the importance of cleanliness.
- Predict and demonstrate how various materials mix with water.
- Demonstrate separation of insoluble solids from water by decantation and filtration.

4. Gaps & Errors in New Textbooks in terms of Student Learning Outcomes

In order to identify gaps in the new textbooks particularly in the context of Student Learning Outcomes as given in the new curriculum a detailed review of the textbooks was conducted.

4.1 Grade One Textbooks

General Knowledge: The curriculum has 29 units. The textbook of general knowledge follows the same pattern. In addition it has an extra unit on awareness of diseases. SLOs not covered in the textbook include:

Unit 3: My Body

- Identify the sensory description of each of the five senses.
(Textbook does not cover the sense of hearing properly)

Unit 6: Food

- Recognize the importance of washing hands before and after eating.
(There is not enough detail in the textbook to cover the whole SLO)
- Demonstrate the etiquettes of eating.

Unit 15: Health care

- Describe an incident where they or another family member had fallen sick and took medical treatment.

Mathematics: The curriculum of mathematics has 6 units and SLOs. The textbook of mathematics follows the same pattern. The following gaps/errors are identified in the textbook:

Unit 1: Concept of whole numbers

- Gap:** Compare and order the numbers 0-10

Unit 2: Number operations

- Error: Addition questions require numbers upto 20 only, but the textbook includes sums beyond 20.
- Error: Use of term 'ordinal number'.

English: In English SLOs in the curriculum are not unit

based and the main focus is on grammar concepts so the material for a particular SLO can be found anywhere in the textbook. There are 59 units in textbook of English which are SLO based. Following SLO are not addressed in the textbook:

- Express understanding of story through pantomime.
- Say a word or two, or a sentence about some common objects in a picture or a photograph.
- Trace/copy simple sentences leaving spaces between words using correct capitalization, punctuation and spellings.
(Textbook covers this whole SLO in different units but for teacher the instructions given to cover this SLO are not in proper sequence.)
- Show a series of actions in a picture by writing action verbs.
- Recognize and use exclamation mark with words or statements showing emotions.

Following basic SLOs are given in curriculum but there are no instructions and activities for teachers to cover these SLOs in the textbook:

- Hold, open and turn pages of a book correctly.
- Identify a book by looking at its title.
- Locate texts/lessons by looking at titles and pictures.
- Write date and caption on page top
- Write name and phone number. (There is an activity through which students will be able to write their name but the whole SLO is not covered.)
- Tell left from right.

- Understand that English is written from left to right.
- Understand that text in English runs from left to right and top to bottom. (there is an instruction in textbook to follow the arrows while tracing letters but there are no clear instructions for teacher to make student able to understand the English writing pattern and to cover the above three SLOs.)

Urdu: SLOs in curriculum are not unit based so the material for a particular SLO can be found anywhere in the textbook. In curriculum suggested topics for textbook are given and the textbook is developed following those suggested topics. But the following gaps were observed in the textbook:

- Understand the hidden meaning in any joke or riddle.
- Tell their likes and dislikes.
- Differentiate the sounds of consonant and vowels.
- Read the sign boards and mileposts.

There are activities in textbook which cover the following SLOs but there are no instructions to link the activities with certain SLOs. Teachers have to assume that a certain activity is given to achieve a certain SLO. The following SLOs are not mentioned in learning goals and guideline for teachers:

- Recognize Urdu alphabets while listening to them.
- Listen and recognize letters that have same sounds and identify these letters in different words.
- Pronounce Urdu alphabets correctly.
- Pronounce Urdu alphabets, words and sentences correctly while reading loudly.
- Repeat Urdu alphabets, words and sentences.
- Recognize Urdu alphabets while pronouncing the letters have same sounds.
- To know about the link between phonemes and Urdu alphabets.
- Use Urdu alphabets to utter phonemes.
- Understand commands in Urdu and follow those commands.

4.2 Grade Two Textbooks

General Knowledge: In the curriculum 2007 there are 24 units. Textbook of general knowledge follows the same pattern and has 25 units with an extra unit on “Protection of diseases”. SLOs are given in the curriculum and textbook again follows the same pattern. The textbook is not covering the following SLOs given in the curriculum:

Unit 6: Lives in the villages and cities-in the past

- Conduct an inquiry into the ways in which their village/city has changed over time (from elders, books and other sources) and present findings orally.
- Identify key persons in the history of their city/village (political, social and cultural).
- Recognize good character and personal virtues in key persons in the history of their village/city.

Unit 10: Rights and responsibilities of a government

- List three rights they have (Right to education, play, health care).
(This SLO is not properly addressed as there is no activity and guideline for teacher)

Unit 17: Construction

- Recognize the materials can change shape when we push or pull them.

Unit 22: Respecting others and appreciating their diversity

- Recognize the need to respect all people as they are born equal and with human dignity.

Unit 24: Being Just and Fair

There are no activities and guidelines for teachers to cover the following three SLOs.

- Identify ways of making unfair situations fair.
- Accept responsibility for treating others unfairly.
- Change behavior when it is shown to be unfair.

Mathematics: The curriculum of mathematics has 5 units and unit wise SLOs are given in the curriculum. The textbook of mathematics follows the same pattern. There are different activities in textbook to cover all

SLOs. No gaps are identified in the book of mathematics.

English: In English SLOs in the curriculum are not unit based and the main focus is on grammar concepts so the material for a particular SLO can be found anywhere in the textbook. There are 12 units in the textbook of English which are SLOs based but the textbook is not covering the following SLOs:

- Recognize the function of selected question words e.g. what, when, to write answers to simple questions.

(In the textbook there is only one instruction for teachers which is to read aloud the question and ask students to answer the question. This instruction does not cover the above SLO.)

Substitution Words (Pronouns):

- Identify and illustrate use of questioning words: what, who, where, when, why.

Punctuation:

- Recognize and add comma for series of items in a sentence and after Yes and No in short informal dialogues, e.g. yes, thank you. etc.

(Textbook covers the first part of the above SLO but does not cover the second part which is use of comma in short informal dialogues.)

Types of Sentences:

- Comprehend and respond to simple wh-questions.

Urdu: The textbook has 25 topics of which 10 are poems including Hammad and Naat, and 15 are stories and essays on different topics such as ethics, famous Islamic and Pakistani personalities, local culture and one to two topics related to science and social studies as mentioned in the curriculum. All standards and benchmarks are covered and requirements of most SLOs are met. SLOs not covered in the textbook include:

- Learn to differentiate between poems and prose
- Write their names in Urdu
- Write their home address

- Understand and express their likes and dislikes by watching children programs on television

4. 3 Grade Three textbooks

Urdu: The textbook has 25 topics of which 10 are poems including Hammad and Naat, and 15 are stories and essays on different topics like ethics, famous personalities of Islam and Pakistan, Pakistani culture, current issues in Pakistan and one to two topics related to science and social studies as are mentioned in the curriculum. The topics cover all the benchmarks, Standards and SLOs which are mentioned in the curriculum. However, Urdu is a language and for the learner and teacher of a language it is necessary to focus on four basic skills of language like listening, speaking, reading and writing etc. Gaps exist in that:

- Reading and writing are covered but there are no guidelines for teachers to enhance the skills of listening and speaking.
- Activities given for listening and speaking skills are not sufficient
- There are no guidelines for teachers on how to develop life skills as mentioned in national curriculum. For example, there are many topics related to life skills e.g. playing for healthy body, rules for crossing the road, but instructions are missing.

Mathematics: The book has 7 units and curriculum has also 7 units. The textbook covers all the SLOs which are mentioned in the curriculum. Each SLO has explanation (definition of the theme), exercise and problems from real life and solutions of problems.

- The only error is on page 51 of textbook UNIT 2 Numbers Operations - Division Exercise 2.14 where the pictures do not follow the statements.

Islamiyat: The book has 5 main chapters along with many sub-topics as are mentioned in the curriculum. The topics cover all the SLOs which are mentioned in the curriculum.

- The only gap is that there are no guidelines for the teacher.

4.4 Grade Four Textbooks

General Science: Textbook follows the curriculum and has 10 units and unit wise SLOs are also given at the start of each unit. In addition textbook has an extra topic on ‘dengue fever’ in unit one. However, the textbook does not cover the following SLOs given in the curriculum:

Unit 6: Heat and its Measurement

- Draw and label the device for measuring temperature.

Unit 8: Introduction to Sound

- Suggest ways to reduce noise pollution and plan an awareness campaign on any one suggestion.

(In the textbook ways are given to reduce noise pollution but no activity is given for awareness campaign.)

Social Studies: Textbook of social studies follows the same pattern as the new curriculum and has 6 units and unit wise SLOs. However, the following SLOs are not covered:

Unit 1: Geography: globe and map skills

- Understand that up is away from the earth and down is towards the earth.
- Locate and name the continents and oceans on the globe and world map.
- Compute distance between two points on maps of different scale.
- Make simple large scale maps of familiar areas such as classroom, house and neighborhood using all map elements.

Unit 2: History: the way we were

- Interpret timeline of major local and provincial historical events.
- Construct timeline of major local and provincial historical events.

(In the textbook timeline of provincial historical events is given but no activity or guideline is given to interpret and construct the timeline)

- Identify social problems and solutions from narratives of the past.

(In the textbook social problems and solutions are given but they are not from narratives of the past. Hence the requirement of above SLO is not fulfilled.)

- Identify short and long term effects of solutions to problems in the past.
- Construct personal historical narratives (own self, family, school) using photographs, letters and interviews with family members as sources of information.

Unit 3: Geography: our land and its people

- Locate the physical features of the province on an outline map of the province.
- Represent in tabular form the physical features of the province, the locations and importance for the people of the province.
- Compare two maps of the same area, combine the data shown on them and draw conclusions based on the data (e.g. minerals, industries, city population density).

(In the textbook comparison of two maps is given but no activity is given for students to draw conclusions by using the given data.)

- Conduct an inquiry about a geographic problem (water logging & salinity, deforestation, etc) of the province and share findings with classmates.
- Construct a table showing the instruments and units of measurement related to weather (temperature, pressure, wind speed and direction, humidity, precipitation).
- Make weather instruments from low cost and no cost material.

(There is only one activity in textbook that is to make a chart showing the instruments to measure various elements of weather. But this activity does not cover the above SLO.)

Unit 4: Government: the way we govern ourselves

- Describe how local and provincial government institutions serve to provide citizens with their rights.

Unit 6: Culture: the way we live together

- Describe their family culture (language, food, dress, how festivals are celebrated etc.)
- Compare their own family culture with that of a family in another country.
(There is no activity to address the above two SLOs.)
- Recognize that culture is dynamic and keeps changing over time.
- Explain that communication is a way for resolving conflict.
- Use problem solving method to suggest solution to a personal (home, school) problem.
- Trace the history of any one modern form of communication.
- Identify the advantages and disadvantages of any one modern form of communication.
- Use a telephone directory to identify the telephone numbers of emergency services in their area (police, fire brigade, ambulance).

5. Alignment of Textbooks with the New Curriculum

The new curriculum was developed in 2006-07 and its introduction at the school level was expected the following year. This was based on the assumption that in one year all textbooks would be written according to the new curriculum and would be available for distribution the following year.

5.1 Textbook Development

In the Punjab, at the start of the school year on 1 April 2012, of the 25 textbooks prescribed for Classes 1-5, only 13 are so far based on the new curriculum. Of these 8 textbooks were provided in the school year 2012. The remaining 12 textbooks continue to be based on the old curriculum and are those taught previously and published by the Punjab Textbook Board (PTB). In Class 1 and 2 four subjects are taught and the books for all subjects have been written according to the new curriculum. In Class 3 five subjects are taught and new books are available in three subjects (Math, Urdu, Islamiat). In Class 4 six subjects are taught and new books are available for only two subjects (General Science, Social Studies). All the Class 5 textbooks continue to be based on the old curriculum.

Of the new books published so far 12 have been produced by publishers from the private sector. The publishers whose books have been selected include:

1. Caravan Book House, Lahore (4 books)
2. Urdu Book Stall (5 books)
3. Ferozsons Ltd. (1 book)
4. G.F.H. Publishers (1 book)
5. Chaudhry Ghulam Rasool & Sons (1 book)

The process followed by the PTB to align textbooks to the curriculum is based on the guidelines for writing a textbook given in the curriculum. In addition, training was given by GIZ to publishers on the writing of books according to the new curriculum.

In this section we seek to understand the alignment between the new curriculum and new textbooks from two perspectives, that of teachers and reviewers.

Instructions given in the new curriculum for writing textbooks:

- Specify a set of well defined outcomes in the form of essential school graduation learning, conceptual map for the curriculum outcomes, general curriculum outcomes (standards), key stage curriculum outcomes (benchmarks), and specific curriculum outcomes (students learning outcomes) that have been presented in the curriculum for both students and teachers to achieve.
- Provide a basis for study programs that will challenge all students and offer all students opportunities to achieve these outcomes.
- Take into account the diversity among children and young adults in Pakistan in terms of gender, language, culture, learning capacity, socio economic background, and geographic location.
- Promote the use of learning materials, print and non-print resources and textbooks developed in an interesting and interactive style.
- Incorporate assessment approaches that are aligned with teaching instructions and correlate with the intended learning areas such as learning strands, content standards, benchmarks and students learning outcomes.

For the attainment of these goals it is necessary that the textbooks be designed according to the new curriculum. In most schools the textbook is the only teaching learning tool. Rarely do teachers use other resources to support the learning. As a result the textbook is the most important teaching and learning resource in our classrooms.

Methodology: As stated earlier, the study was carried out in three districts of Punjab, Lahore, Lodhran and Pakpattan, in each district 6 schools were selected. In

each school teachers for all grades and subjects for which new textbooks were available were selected as respondents. The questionnaire was administered to a total of 102 teachers in these 18 schools. Prior to this, the reviewers (study researchers) also filled out a similar but separate set of tools to provide a comparison in perspectives.

Research Tools: All questions were designed to take into account the guidelines provided in the National Curriculum 2006-7. In each subject the tools took into account eight main aspects of the textbooks (as outlined in the table below) having more or less similar questions in each category.

The questions required the respondent to rate different aspects of the textbooks on a scale of 1 to 5, where 5 was for completely, 4 was for to a large extent, 3 was for to some extent, 2 was for very little and 1 was for not at all. Respondents were asked to put a rating in each column according to their own understanding.

Two types of questionnaires were developed, one for teachers and the other for reviewers. The tools were quite similar, however the level of detail varied with the greater part of extra questions for textbook reviewers on textbook design, content accuracy and coverage. Overall there were 102 questions in the teachers' questionnaire and 157 questions in reviewers' questionnaire amounting to approximately 55 different questions.⁴ (Annex 2)

Questions were based on the following categories:

S. No.	Main category	Explanation
1	Textbook design for user friendliness, interest and ease of understanding	Introduction to textbook explaining the structure and format of the book, organization of concepts in connection with the curriculum objectives and directions on how to use the illustrations for the better understanding of the content. Also whether the design as attractive and engaging.
2	Content accuracy and coverage	Did the textbook have accurate and up-to-date material and inclusion of current issues problems and happenings?
3	Content relevance	Did the textbook have variety of practical and thinking activities relevant to the needs, age and level of understanding of the students?
4	Higher order thinking skills	Whether the textbook material is sufficient to give students the knowledge they need to understand concepts, develop inquiry skills and engage in higher order thinking. And whether exercises have been included to encourage students to think, develop skills and use information for a variety of purposes.
5	Contextual relevance and bias	Whether the textbook is contextually relevant (feasible to use in classroom, affordable, examples from context to increase relevance and meaning) and whether the material is unbiased.
6	Enhancement of knowledge	Whether teacher guide and suggestions in the area of websites have been included for further reading.
7	Language	Whether the textbook language is readable, understandable, easy to follow and appropriate for the children who will use it.
8	Assessment	Whether the textbook have a variety of assessment strategies suggested (for example binary and multiple choice items, completing pictures or map items ,project work, exhibitions, interpretive exercises, open ended and divergent responses etc).

⁴ Extra questions for textbook reviewers were mostly in mathematics, social studies, Urdu and English. Textbook reviewers have not asked questions from teachers on font size, page size, line spacing, titles and sub titles etc. In content accuracy and coverage the questions on errors, ambiguities, punctuations and about poets and writer names were not asked from teachers. According to textbook reviewers it was unnecessary to ask these types of questions from them.

5.2 Analysis of Textbooks

A comparison of textbook assessment carried out by reviewers and teachers provides useful insights into what textbooks intend to convey and what issues are faced by teachers in using them as a teaching tool in the classroom. This section provides an analysis of the teachers and textbook reviewers responses on the new textbooks by subject and grade. Each sub-section provides a summary of the responses according to the eight main categories identified in the tool.

1. English Grade 1 & 2

1. Textbook Design: Most of the teachers' responses on textbooks design for user friendliness, interest and ease of understanding are positive.

Textbook reviewers found that the textbook design for user friendliness, interest and ease of understanding mostly positive. The textbooks are attractive, appealing, colorful, user friendly, have adequate page size, have detailed content page, consistent format throughout in language, content and activities, and illustrations also help us to understand the content better. The textbook material is related to the goals of the curriculum. In the textbook of grade 2 an introduction has been given explaining how to use the textbook but in grade 1 introduction has not been given.

2. Content accuracy and coverage: Most of the teachers' response on content accuracy and coverage are positive. Also most teachers are of the view that current issues, problems, happenings and effective review activities for the checking of students previous learning is to a large extent included in the textbooks.

Textbooks reviewers had similar responses. The textbook content is accurate, authentic, up to date and the given review activities effectively recall and check students' previous learning. But in both grades current issues, problems and happenings are not included.

3. Content relevance: Most of the teachers' response on content relevance is also positive and most of the teachers find that to large extent the content is suitable

for learners' requirements of age, level of understanding and skills.

Textbook reviewers had similar responses. The textbook content is suitable for the skills it is supposed to develop. Also in both grades the textbook content is to a large extent relevant to the needs, age and level of understanding of the students.

4. Higher order thinking skills: Most of the teachers' responses on inclusion of higher order thinking skills are positive. Most of the teachers said that exercises encourage students to think, to develop their skills and to be creative however, most of the teachers' response on review exercises, activities for curiosity for further study and apply the learning to resolve real life issues is somewhat less positive.

Textbook reviewers had similar responses. The textbook activities and exercises encourage students to think, to develop their skills, to be creative and engage them in higher order thinking. The textbook text, questions and suggested activities are to a large extent suitable for the needs of the learner such that they ensure students participation in real life issues and stimulate their interest that would lead to further study.

5. Contextual relevance and bias: Most of the teachers said that the content is culturally and contextually relevant. Most of the teachers said that the textbooks are unbiased.

Textbook reviewers had similar responses. The textbook content is culturally and contextually relevant. No biases of any kind have been found in the textbooks.

6. Enhancement of knowledge: Most of the teachers' response on the inclusion of teacher guide in textbooks is positive however, the websites have not been included.

Textbook reviewers had similar responses. Teacher guide, glossary/vocabulary for the help of teachers has been included. Websites and further readings have not been included in the textbook. *(Extra questions for reviewers)*

7. Language: Most of the teachers said that the language used in textbooks is appropriate for the children who will use it.

Textbook reviewers had similar responses. The language of the textbook is readable, understandable and easy to follow for the children who will use it. The textbook provides sufficient English language exposure and practice through variety of text types and variety of spoken and written language forms in both formal and informal. *(Extra questions for reviewers)*

8. Assessment: Most of the teachers' response on assessment strategies is positive. The review system is considered to be adequate to a large extent by most teachers.

According to the reviewers, the textbooks have a variety of assessment strategies and have adequate review system for the preparation of terminal test. In grade 2 textbook, sample for tests after a few units have been given but in grade 1 textbook sample tests have not been given. *(Extra questions for reviewers)*

2. General Science Grade 4

1. Textbook design: Most of the teachers' response on textbook's illustrations and its organization is positive. Most of them said that to a large extent textbooks are attractive and appealing.

Textbook reviewers found that the textbook design for user friendliness, interest, and ease of understanding is attractive and appealing to children. Textbook reviewers found that the textbook has adequate page size, line spacing, titles and sub titles and font size. Textbook reviewers found that the textbook is related to the goals of the curriculum. Illustrations in the textbook help teachers to understand the content better. The textbook has to a large extent an introduction explaining its organization; table of contents, glossary, index and key points/summary. *(Extra questions for reviewers)*

2. Content accuracy and coverage: Most of the teachers' response on content accuracy and coverage is that this is so to some extent.

Textbook reviewers found that the textbook content is accurate and up to date.

3. Content relevance: Most of the teachers said that to a large extent learning activities are suitable for the needs of the learners. However, most of the teachers' response on the development of skills and content relevancy in the sense of students' needs, age and level of understanding is that is so to some extent.

Textbook reviewers found that the textbook content/activities develop students' important skills which are required at this level. The textbook content is relevant to the needs, age and level of understanding of the students. Learning activities given in the textbook are suitable for the needs of the learner.

4. Higher order thinking skills: Most of the teachers' response on higher order thinking skills is positive to a large extent.

Textbook reviewers found that the text, questions and suggested activities to a large extent stimulate students' interest that would lead to further study. The textbook learning activities include students' participation in real life issues and promote scientific inquiry or investigation. End of the chapter exercises encourage students to think, to develop their skills and to be creative. *(Extra questions for reviewers)*

5. Contextual relevance and bias: Most of the teachers retorted that the textbooks are unbiased.

Textbook reviewers had similar responses. Textbook reviewers have not seen any type of bias in the textbook.

6. Enhancement of knowledge: Most of the teachers said that to some extent teacher guide has been included in the textbook. Most of the teachers responded that websites have not been included in the textbooks.

Textbook reviewers found that teacher's guide/instructions and websites for further reading have not been included in the textbook for the guidance of teacher.

7. Language: Most of the teachers said that to some extent language is appropriate for the children who will use it.

Textbook reviewers found that the language of the textbook is to a large extent readable, understandable, easy to follow and appropriate for the learners who will use it.

8. Assessment: Most of the teachers' response on variety of assessment is positive.

Textbook reviewers found that the textbook have a variety of assessment strategies such as fill in the blanks, multiple choice items, project work, exhibitions and interpretive exercises, open ended and divergent responses, etc.

3. Urdu Grade 1, 2 & 3

1. Textbook design: Most of the teachers' response in grade 2 & 3 on textbook design for user friendliness, interest and ease of understanding is positive but most of the teachers of grade one said that this was so to some extent.

Textbook reviewers found that the textbooks design for user friendliness, interest, and ease of understanding have positive things and are fulfilling the requirements of new National Curriculum. Textbook reviewers found that all lessons of the textbook are to a large extent beginning at the right page and end up along with the exercise at the left page. The textbook script is written to a large extent in Nastaleek, properly composed and free of error. Words are paced at same distance. Such textual tables which are not directly related to students learning for example objectives/SLOs of the lesson to a large extent are written in Nasak script. The text font size is exceeded from 20" and the font size for

instructions in the exercises is 2" point smaller. The textbook volume size is also according to the requirement of the curriculum and the textbooks pages are from 100-150. The Arabic verse is clearly written on the first page of the textbook. The title page of the textbook is colored and adorned with appropriate cultural photograph, map or sketch. The content of textbook is in the form of lessons. The textbooks of grade 1, 2 & 3 are covering objectives, difficult and new words, teaching instructions, and practical exercises. In grade 3 illustrations help to understand the content better but in grade 1&2 the illustrations are helping to understand the content better to some extent. (Extra questions for reviewers)

2. Content accuracy and coverage: Most of the teacher said that the content is accurate and up to date. Most of the teachers of grade 3 said that the textbooks are planned in textual evolution. However, most of the grade 1 teachers said that to a large extent the textbooks are in textual evolution and according to most of the grade 2 teachers the textual evolution is to some extent.

Text book reviewers found that in grade 3 pictures and sketches are placed at appropriate place in the textbook helping to explain the concepts given in the text and not just for decorative purpose but in grade 1 & 2 pictures and sketches to some extent fulfill this purpose. The name of writer and poet has also been given in the textbooks. Punctuation has also been given. Unknown poet/writer's work has not been included. Lesson given in the textbook are planned in textual evolution and are preceded from simple to complex and not vice versa. In grade 3 the content is accurate and up to date however in grade 1&2 the content is to a large extent accurate and up to date. (Extra questions for reviewers)

3. Content Relevance: Most of grade 2 teachers said that the content is relevant. However, most of the grade 3 teachers said that to a large extent the content is relevant and most of the grade 1 teachers' response on content relevance is to some extent. Most of the teachers said that to some extent the contents develop important skills.

The textbook reviewers found that the textbook content/activities develop students' important skills which are required at this level. The textbook content is relevant to the needs, age and level of understanding of the students. Learning activities given in the textbooks are suitable for the needs of the learner.

4. Higher order thinking skills: Most of the teachers said that chapter exercises encourage students to think, develop their skills and to be creative. Most of the grade 3 teachers said that text, questions and suggested activities stimulate students' interest that would lead to further study. However, most of the grade 1 teachers said that to a large extent suggested activities stimulate students' interest for further study and most of the grade 2 teachers said that to some extent text questions and suggested activities stimulate students' interest for further study.

The text, questions and suggested activities to a large extent stimulate students' interest that would lead to further study. The textbook learning activities include students' participation in real life issues. End of the chapter exercises encourage students to think, to develop their skills and to be creative.

5. Contextual relevance and bias: Most of the teachers said that the textbooks are unbiased. Most of the grade 1 & 2 teachers said that the content is culturally and contextually relevant. However, most of the grade 3 teachers said that to some extent the content is culturally and contextually relevant.

Textbook reviewers found that the textbooks are unbiased and the content is culturally and contextually relevant.

6. Enhancement of knowledge: Most of the teachers said that websites have not been included in the textbooks.

Textbook reviewers found that alphabetical lexicon has been given at the end of the textbook. Websites have not been given in the textbooks.

7. Language: Most of the teachers of grade 3 said that the textbook language is appropriate and avoids difficult

and obsolete phrases. Most of the teachers of grade 2 said that to large extent language meets the contextual needs. But the teachers of grade 1 said that the language was appropriate only to some extent. Most of the teachers of grade 1 & 3 said that the language is appropriate for the children who will use it however the teachers of grade 2 said that this was so only to a large extent.

Textbook reviewers found that the textbook texture and language is close to practical needs and avoids difficult words and obsolete phrases. Difficult words are marked with Urdu punctuation. The language is to a large extent readable, understandable easy to follow and appropriate for the learners. (*Extra questions for reviewers*)

8. Assessment: Most of the teachers said that a variety of assessment strategies have been included in the textbooks.

Textbook reviewers found that diversified questions are to a large extent included in the lesson exercises like, supporting; comprehensive, further studying, and critical thinking related which cater the needs of children of different mental levels. Half proportion of questions is objective type having good percentage of multiple choice questions. (*Extra questions for reviewers*)

4. General Knowledge Grade 1&2

1. Textbook design: Most of the responses of teachers on textbook design are positive.

Textbook reviewers found that the textbooks of General Knowledge are attractive, appealing and to a large extent related to the outcomes of the curriculum. Illustrations in textbooks help to understand the content better. The textbooks, to some extent, have an introduction to explain its organization but there is no summary of units given in these textbooks. (*Extra questions for reviewers*)

2. Content accuracy and coverage: For content accuracy and coverage most of the teachers said that the

content of these new textbooks is accurate and up to date, but these textbooks included current issues, problems and happenings to some extent.

Textbook reviewers found that the content of textbooks is accurate and up to date. Current issues, problems and happenings are included to some extent in grade 1 textbook but to a large extent in the textbook for grade 2.

3. Content relevance: Most of the teachers said that learning activities and skills in these books are relevant and suitable for the needs of the learners to a large extent but for the age and level of understanding of the students the content they are relevant only to some extent.

Textbook reviewers found that the textbooks content is relevant to the needs, age and level of understanding of the students. No negative content has been found in the textbooks.

4. Higher order thinking skills: Responses of most of the teachers on higher order thinking skills are positive.

Textbook reviewers had similar responses. Textbook reviewers found that both textbooks are positively developing higher order thinking skills of students. Textbooks present issues from different perspectives and include students' participation in real life issues.

5. Contextual relevance and bias: Most of the teachers said that the textbooks are unbiased.

Textbook reviewers had similar responses. Textbooks are contextually relevant and unbiased.

6. Enhancement of knowledge: Most of the teachers said that, to a large extent, there is teachers' guide included in textbooks but there are no suggestions for further reading in the area of websites for further information.

Textbook reviewers found that for teachers' enhancement of knowledge, teacher's guide is included. There are no suggestions in these textbooks for further reading in the area of websites for further information.

7. Language: Responses of teachers on language vary

grade wise. Teachers of Grade 2 said that language of grade 2 textbook is readable, understandable and easy to follow, whereas according to teachers of grade 1 this is so only to some extent for the grade 1 textbook. However, teachers of both grades said that the language of these books is to some extent appropriate for the students.

Textbook reviewers found that language of both textbooks is to a large extent readable, understandable, easy to follow and appropriate for the children.

8. Assessment: Most of the teachers' responses on assessment strategies are positive.

Textbook reviewers had similar responses. A complete variety of assessment strategies is given in both textbooks.

5. Social Studies Grade 4

1. Textbook design: Responses of most of the teachers on textbook design are positive.

Textbook reviewers found that the textbook is to some extent attractive and engaging. There is no introduction on how to use the textbook and summary/concept map for reviewing key knowledge and skills. Activities and illustrations in this textbook vary from page to page and table of content including subtopics is also given in textbook. To a large extent, writing structure is simple and each paragraph deals with single idea. *(Extra questions for reviewers)*

2. Content accuracy and coverage: Most of the teachers said that content of social studies textbook is very little up to date, accurate and developmentally appropriate.

Textbook reviewers found that the content of textbook is accurate, up to date and error free but it does not recall previous learning of students where possible. Student's learning outcomes are given at the beginning of each chapter. *(Extra questions for reviewers)*

3. Content relevance: According to most of the teachers the content of the textbook is to some extent relevant for the needs of the students.

Textbook reviewers found that the content of the textbook is to a large extent relevant to the needs of the learners.

4. Higher order thinking skills: Most of the teachers said that to some extent exercises and subject matter of textbook develop higher order thinking skills in students. To some extent this textbook presents issues from different perspectives. According to teachers, the type of activities, encourage students to do inquiry.

Textbook reviewers found that activities, end of chapter exercises and subject matter encourage students to think, develop their skills, give knowledge they need to understand the concepts and move them from lower to higher order thinking. To a large extent, subject matter of the textbook helps students to prepare for exams, prepare for life and raise their standards. *(Extra questions for reviewers)*

5. Contextual relevance and bias: Most of the teachers said that the textbook is to some extent contextually relevant. Teachers said that this textbook is unbiased.

Textbook reviewers found that to a large extent the textbook is contextually relevant and there are no biases in the textbook.

6. Enhancement of knowledge: Teachers were not asked to comment on this question.

Textbook reviewers found that for enhancement of knowledge glossary and vocabulary is included in the textbook. However, index is not included.

7. Language: Responses of most of the teachers on language of the textbook are positive.

Textbook reviewers had similar responses. Textbook reviewers found that language of this textbook is consistent, culturally appropriate, gender neutral, grammatically correct and age appropriate. The textbook does not use patronizing language or stereo types about any religion or ethnic group. *(Extra questions for reviewers)*

8. Assessment: Most of the teachers said that to a large extent end of chapter exercises test the knowledge of the entire chapter. Teachers said that after 2-3 units no tests have been given in the textbook for assessment of students.

Textbook reviewers found that end of chapter exercises assess knowledge of entire chapter. After 2-3 units no test has been given and at the end of book sample exam papers are not included at all.

6. Mathematics Grade 1, 2 & 3

1. Textbook design: Responses of most of the teachers on textbook design are positive.

Textbook reviewers found that the span of these three textbooks is reasonable to a large extent. Tables and line drawings are used to break up the text. List of headings are included in all three books. The material of textbooks is not cramped and is completely digestible as it is chunked into smaller parts with headings. Usage of italic for emphasis and bold for key terms is to some extent in textbooks of grade 2 & 3 but very little for grade 1. The text material of grade 1 & 2 is free from typographical errors but the grade 3 textbook has many errors. To a large extent illustrative examples are included in grade 1 & 3 textbooks to develop conceptual understanding of the topic but this is so only to some extent in grade 2. *(Extra questions for reviewers)*

2. Content accuracy and coverage: There is variation in responses of teachers of different grades. According to most of the grade1 and 3 teachers, special attention is paid on preparation of problem sets to some extent; however, grade 2 teachers' response on it is that very little attention is given. On textbook accuracy and arrangement of textbook material in a logical manner, most of the teachers' responses are positive. Most of the teachers of grade 1 and 3 said that every table, line drawing and graphs is to some extent labeled appropriately however, most of the teachers of grade 2 responses on this are positive. Teachers were asked whether special attention given to the geometrical

portion, to which teachers of grade 1 and 2 gave positive responses, however, grade 3 teachers said that this was so only to some extent. Most of the teachers of three grades said that there are no unit wise answers of problem sets included in these textbooks.

Textbook reviewers found that the content of textbooks is accurate, up to date and arranged in a logical manner, it does not develop wrong concepts. The text material of these textbooks is free from mathematical ambiguities. However, unit wise answers to the problem sets are not included at all. Review of the main concepts is not included in grade 2 & 3 whereas it is to some extent included in textbook of grade 1. In textbooks of grade 1 & 3 special attention is paid on geometrical portion while this is so to some extent in the textbook of grade 2. (*Extra questions for reviewers*)

3. Content relevance: Responses of most of the teachers on real life relevance of units through illustration are positive. According to most of the teachers of grade 3 to some extent the textbook is relevant to the mental level of students and correlate mathematics with real life situations however most of the teachers of grade 1 and 2 gave positive responses on it.

Textbook reviewers found that real life relevance of the units through illustrations is given in the textbooks of grade 1 & 3 whereas in grade 2 it is given to some extent. These three textbooks are according to the mental level of the students. Special attention is paid on preparation of problem sets in the textbooks of grade 2 & 3 but only to some extent in the textbook of grade 1.

4. Contextual relevance and bias: Most of the teachers of all grades said that the textbooks are contextually relevant and unbiased.

Textbook reviewers found that textbooks are contextually relevant and there are no biases in these textbooks.

5. Enhancement of knowledge: According to most of the grade 1 teachers extra information for students needs and relevant websites are included in the book to some extent however, most of the teachers of grade 2 and 3 responses are negative. Most of the teachers of grade 1

said footnotes and side notes are inserted in the textbook, however, in grade 3 textbook this is to some extent and in grade 2 footnotes and side notes are not at all inserted.

Textbook reviewers found that for enhancement of knowledge there is no bibliography and list of books suggested. Glossary and index are also not included in these textbooks. Extra information for students such as list of mathematical formulas, log tables and relevant websites are to some extent included in the textbook of grade 3 but not included in grade 1 and 2 textbooks. Footnotes and side notes are given in the textbook of grade 1 but not included in grade 2 and 3 textbooks. (*Extra questions for reviewers*)

6. Assessment: Most of the teachers of grade 1 and 3 said that the review of main concepts is included in the textbook to some extent and in grade 2 textbook this is so to a large extent. Most of the teachers of grade 1 said the textbook included a variety of assessment strategies whereas according to teachers of grade 2 and 3 it is given to some extent.

Textbook reviewers found that for assessment of students multiple choice questions, interpretive exercises and fill in items are included in the textbooks of mathematics. Bulleted questions for students, to check their understanding at regular intervals, are included to a large extent. (*Extra questions for reviewers*)

Summary Responses

This section briefly summarizes the most frequent responses of teachers and textbook reviewers on the new textbooks according to the eight main areas identified in the tool (refer to Table 3 below and Annex 2 for detailed responses).

In the context of design it appears that both teachers and textbook reviewers found textbook design favorable across subjects and grades (high ratings of 5 in most cases).

For content and accuracy, generally reviewers had a more favorable opinion with ratings between 4 & 5 with regards to content and accuracy. Whereas teachers ratings were slightly lower between 3 & 4 and one particularly

low rating in social studies and mathematics of 2 & 1. In social studies most of the teachers responded that textbook content barely up to date, accurate and developmentally appropriate. Most of the teachers in mathematics said that the textbook content is not developing wrong concepts but unit wise answers to the problem sets have not been included in the textbooks.

It is found that textbook reviewers' response on content relevance were favorable across the board while most of the teachers' response on the relevance were slightly lower at 3 & 4. For inclusion of higher order thinking skills again the textbook reviewers' responses were favorable on the enhancement of higher order thinking skills and teachers' response were slightly lower at 3 & 4.

There is a mixed response from both teachers and textbook reviewers with regards to cultural and context relevance of the textbooks depending on the subject. Science, math and general knowledge received unfavorable responses (1) by both parties. Urdu and English have mixed response with both 5s and 1s. Finally Social Studies has a relatively more favorable rating with 3 from teachers and 5 from reviewers. Teachers and reviewers have mixed responses on the cultural and contextual relevant of the content, however, on the issue of biases against religion, national origin, gender, occupation and class responses of

both parties are favourable.

In the area of enhancement of knowledge responses were mixed. The inclusion of guidelines for teachers drew a favorable response from teachers and reviewers, however, on the aspect of further information reading materials, footnotes/side notes, mathematical formulas, log tables, key terms and relevant websites their response was not favorable as these had not been included.

Generally responses were favorable across the board for the aspect of language but again with textbook reviewers providing slightly higher ratings (4, 5) and teachers slightly lower (3, 4). In Science, Social studies and General Knowledge teachers responses were to some extent for the language being readable, understandable, easy to follow and appropriate for the children who will use it. In social studies teachers responded that teachers have not found disparaging, patronizing language or stereotypes about any religion, ethnic group, sex, for people of different ability or any other community.

On assessment, the general response of teachers and reviewers was favorable across the subjects and grades, with the exception of social studies where teachers' responses were not favorable. Teachers reported that sample tests have not been given after every 2-3 units.

Table 4: Summary of Teachers and Reviewers Most Frequent Response

Subjects	Grade	Design		Content accuracy		Content relevance		Higher order thinking skills		Contextual relevance and bias		Knowledge Enhancement		Language		Assessment	
		T	R	T	R	T	R	T	R	T	R	T	R	T	R		
English	1&2	5	5	4	4	4	5	4	5	1*4*	1*5*	1*5*	1*5*	5	5	5	5
Science	4	5	4	3	5	3	5	4	5	1	1	3*1*	1	3	4	5	5
Social Studies	4	5	5	2	5	3	4	3	5	3	5		5	5*1*	5	4*	1
Urdu	1,2&3	5	5	5	5	3	5	5	4	1	1*5*	1	1*5*	5	5	5	4
Math	1,2&3	5	5	1	5	5	5			1	1	1*3*	1			3	4
General Knowledge	1&2	5	4	3*5*	5	4	5	4	5	1	1	4*1*	5*1*	3	4	5	5

Note: "T" stands for Teachers and "R" stands for Reviewers.

6. Development of Teacher Guides

The development of teacher guides based on the New Curriculum began in 2007 and is a continuous process. As such they are constantly being subjected to revisions based on the feedback derived from training teachers in their usage.

6.1 Background

DSD has been developing materials for the enhancement of students learning outcomes since 2006. The Basic Foundation Module-I designed in 2006, was based on the old curriculum 2002 and on Bloom's Taxonomy. Its aim was to provide pedagogy and subject content for the teaching of English, Urdu, Mathematics and Science to primary school teachers. Basic Foundation Module-II was based on the new

Curriculum 2006-7. This module was prepared on the basis of Training Need Assessment (TNA), feedback from Lead Teacher Educators (LTEs), District Teacher Educators (DTEs), Teacher Educators (TEs) and selected primary schoolteachers from all over the Punjab. It addressed the needs of teachers in selected components and SLOs. In 2011, complete Lesson Plans (SLO based) for primary level in the subjects of English, Mathematics and Science were developed. These were the first drafts of the Teacher Guides.

Materials	Subjects	Grades	Content	First Draft	Curriculum
Basic Foundation Module-I	Urdu ,English, Math, Science	1-5	Content and pedagogy Bloom's Taxonomy	2006	2002
Basic Foundation Module-II	Urdu ,English, Math, Science	1-5	Content and pedagogy SOLO Taxonomy in Selected Topics	2008-9	2006-7
Teacher Guides	English, Math' Science	4&5 1-5 1-5	Introduction of New Curriculum Complete Lesson Plans Based on SLOs	2011	2006-7

The responsibility for developing Teacher Guides rests with the Material Development Wing (MDW) of the Directorate of Staff Development. The National Curriculum contains guidelines for development of Teacher Guides which the responsible agency is expected to follow. Work on the teacher guides began with the launching of the new curriculum in 2007, and although the curriculum specified the simultaneous development of new textbooks this did not happen. The MDW organized meetings with consultants for three

subjects of English, Science and Math followed by meetings with material developers and resource persons from the public and private sector. The teacher guide template was finalized by coordinators for each subject to include:

1. SLOs: taken from the National Curriculum.
2. Information for teachers: a link developed between SLOs and information for teachers.
3. Material/Resources: required for teaching.

4. Introduction: for brainstorming activities for children. For example in science demonstrative activities to brainstorm with children are included in the introduction.
5. Development: in which 2-3 activities are included to cover the SLOs. In these activities instructional language has been used for teachers.
6. Conclusion/Sum up: in which every step of a lesson has been covered.
7. Assessment: through which teachers can check the learning of their students.
8. Follow up: through which teachers can assure the real life application of lessons.

At the time when the Teacher Guides were developed, the resource persons had access to the National Curriculum 2006-7, some old Punjab Textbook Board books and books used by City School and Beacon House. At this stage no new textbook had been developed for use at the primary level for government schools. The procedures followed by developers and reviewers were common based on the Standard Operative Procedures (SOP) of the 2009 National Education Policy. Pilot testing of Teacher Guides was conducted with groups of primary school teachers representing rural and urban schools from four regions (north, south, east and west) of Punjab at DSD. Their views on lesson plans were incorporated resulting in the modification of the lesson plans. The guides were also piloted in four districts selected from different parts of the province. Eventually, both developers and reviewers finalized the Teacher Guides.

For the first time standards, benchmarks and SLOs have been given for each subject and topic in the New Curriculum. SLOs clarify what students will learn/could not learn after each lesson. The aim was to develop lesson plans in the Teacher Guides for each SLO and define assessment patterns for the ease of teachers and for the practice of students so that students could be prepared for Punjab Examination Commission exams. The DSDs monitoring system reports increasing acceptance and usage of Teacher Guides by teachers including a shift towards activity based teaching especially in subjects for which new textbooks are available. To some extent these guides are filling the gaps of old textbooks as well, although teachers have to

develop lesson plans themselves which places a greater burden on them.

The teacher guides form part of the support provided by DSD to teachers through the Continuous Professional Development (CPD) program, in which they ensure on-site support, professional and annual trainings to primary school teachers in the area of pedagogy and content. These guides seek to supplement the textbooks, the only teaching material available to teachers, by providing comprehensive lesson plans.

6.2 Analysis of Teacher Guides

The teacher guides aim to achieve Students Learning Outcomes (SLOs) introduced in the new curriculum through the teaching materials and methodologies which suits varying teaching and learning contexts of Punjab. Given these new initiatives to bring teaching closer to students learning outcomes, this study seeks to understand the alignment between these newly introduced teacher guides, the curriculum and textbooks. It will do so both from the perspective of teachers and expert reviewers.

Methodology: From the 18 schools selected for the study all classes with teacher guides in Science, Mathematics and English were covered (a total of 12 teacher guides which include (English grade 1-5, Science grade 4&5, Math grade 1-5). A questionnaire was administered to a total of 102 teachers in these 18 schools. Prior to this, the reviewers (study researchers) also filled out a similar but separate set of tools to provide a comparison in perspectives.

Study Tools: All questions were designed to take into account the guidelines provided in the National Curriculum 2006-7. In each subject, the tools took into account six main aspects of the teacher guides (as outlined in the table below) having more or less similar questions in each category. The questions required the respondent to rate different aspects of the teacher guides on a scale of 1 to 5, where 5 was for completely, 4 was for to a large extent, 3 was for to some extent, 2 was for very little and 1 was for not at all. Respondents were asked to put a rating in each column according to their own understanding.

Two types of questionnaires were developed, one for teachers and the other one for reviewers. The tools were quite similar, however the level of detail varied. The greater part of extra questions for teacher guide reviewers was on teacher guide design and activities and

methods. Overall there were 59 questions in the teachers' questionnaire and 65 questions in reviewers' questionnaire amounting to 6 different questions.⁵ (Annex 3)

Questions were based on the following categories:

S. No.	Main category	Explanation
1.	Design for user friendliness, interest and ease of understanding	Title and introduction. Overview of Curriculum, structure of the textbooks and SLOs. Easy to understand and use. Detailed instruction regarding methodologies and learning activities.
2.	Alignment of teacher guide with textbooks	Was the teacher guide based on accompanying textbook skills, knowledge and strategies for teachers? Whether each unit of the teacher guide is written in sequence corresponding to textbook for ease of cross referencing? Whether the teacher guides are effective in the case of new and old textbooks?
3.	Activities and methods	Help teacher teach text and extension of activities by keeping in view contextual realities. Provide various teaching strategies and activities and show how to conduct them. Identify constraints and strengths of each strategy and activity.
4.	Materials and information	Provide additional teaching learning resources (e.g. photocopiable materials) and explain how and where teacher can develop low cost and no cost resources. Explain how to implement each instructional strategy.
5.	Enhancement of knowledge	Recommend additional reading materials for teachers. Expand and develop teachers' repertoire of knowledge and skills. Contain information sources for teachers' ongoing professional development.
6.	Assessment	Familiarize teachers with various assessment strategies and explain each assessment strategy (strengths, weaknesses, procedures for implementation) and give examples of tests and questions.

⁵ Extra questions for reviewers were in Mathematics, Science and English. Reviewers have not asked these types of questions from teachers' e.g. general philosophy of Curriculum, SLOs for each unit etcetera. According to reviewers it was unnecessary to ask these types of questions to teachers.

Teachers and Reviewers Responses

This section provides an analysis of the teachers and reviewers' responses on the teacher guides by subject and grade. Each section provides a summary of the responses according to the six main categories identified in the tool.

1. General Science – Grades 4&5

1. Design: Most of the teachers' response on teacher guide design including title and introduction, overview of SLOs, detailed instructions regarding methodology and learning activities is positive. Most of the teachers said that the teacher guide is easy to understand and use. Most of the teachers of grade 5 said that in introduction general philosophy of curriculum has been given however most of the teachers of grade 4 said that to some extent general philosophy of curriculum has been given in the introduction. Most of the grade five teachers said that brief overview of structure of the textbook in various units, also include skill focus and main teaching points for each unit have been given to a large extent however most of the teachers of grade four said that this was so only to some extent.

Reviewers' response on teacher guide design is similar. Reviewers' response on the ease of understanding and use is to a large extent easy for grade five. General philosophy of curriculum has been given in both grades. Reviewers found that brief overview of structure of the textbook in various units, including skill focus and main teaching points for each unit in grade 5 is very little. But in grade four overview of structure of the textbook has been given. *(Extra questions for reviewers)*

2. Activities and Methods: Most of the teacher responses on the provision of various teaching strategies and rationale for suggested teaching methods is that the guide contains these to some extent. Most also feel that it helps a teacher to teach text and extend activities by keeping contextual realities in view. Most of the teachers reported that the teacher guide provide extension of activities and show how to conduct them with grade five teachers finding this to a large extent and grade four

teachers to some extent. Most of the teachers of grade five reported that teacher guide identify constraints and strengths of each strategy or activity, especially if these are likely to be new for teachers. However, the teachers of grade four reported this to be to some extent.

Reviewers found that to a large extent various teaching strategies and rationale for suggested teaching methods is provided in teacher guides. Reviewers have similar response to teachers that teacher guides help a teacher to teach text and extend activities by keeping contextual realities in view. Reviewers found that the teacher guide for grade five adequately provides extension of activities and show how to conduct them, however in the guide of grade four provision of extension of activities is to a large extent. Reviewers found that in the guide of grade four identification of constraints and strengths of each strategy or activity, especially if these are likely to be new for teachers is given to a large extent, however in the guide of grade five this is to some extent.

3. Materials and information: Most of the teachers said that to a large extent additional teaching learning resources for example photocopiable materials that teachers can use in their classrooms have been provided in the teacher guides. Most of the teachers of grade five said that teacher guide explain how to implement each instructional strategy, adding resources of information as needed, however, most of the teachers of grade four reported this to some extent. Most of the teachers said that to a large extent teacher guides explain how and where teacher can develop low cost and no cost resources.

Reviewers had similar response on the availability of additional teaching learning materials. Reviewers had similar response on grade five teachers' guide regard to instructional strategies; however, the guide of grade four to a large extent explains how to implement each instructional strategy, adding resources of information as needed. Reviewers found that in the guide of grade four explanation of how and where teacher can develop low cost and no cost resources is complete, however in the guide of grade five this explanation is given to a large extent.

4. Enhancement of knowledge: Most of the teachers of grade five said that to a large extent further reading material has been given in the guide, however, the teachers of grade four said this to some extent. Most of the teachers said that additional reading materials for teachers have to a large extent been recommended. Most of the teachers said that to large extent teacher guides expand and develop teachers' repertoire of knowledge and skills and that to a large extent teacher guides contain information sources for teachers' ongoing professional development.

Reviewers found that to some extent further reading materials have been given in the teacher guides. Reviewers found that teacher guides expand and develop teachers' repertoire of knowledge and skills. Reviewers had similar responses on the availability of information sources for teacher ongoing professional development. Reviewers found that the teacher guides recommend additional reading materials for teachers.

5. Assessment: Most of the teachers' response on assessment strategies is that teacher guides familiarize teachers with various assessment strategies. Most of the teachers of grade five said that to a large extent teacher guides explain each assessment strategy's strengths, weaknesses, procedures for implementation and give examples of questions and tests. However, most of the grade four teachers reported it to some extent.

Reviewers had similar response for grade five on the familiarization of teachers with various assessment strategies however, for grade four reviewers response is that this is so to a large extent. Reviewers found that the teacher guides for grade four and five explain each assessment strategy strengths, weaknesses, procedures for implementation and gives examples of questions and tests.

2. English – Grades 1-5

1. Teacher Guide Design: Most of the teachers' responses on the design of teacher guide are positive. Most of the teachers of grade 3&4 said that the teacher guide is to a large extent easy to understand and use whereas most

of the grade 2 teacher responses on it are to some extent. Most of the grade 2&4 teachers said general philosophy of national curriculum is given to some extent. While, most of the grade 2&5 teachers said that brief overview of the textbooks is given to a large extent whereas teachers of grade 1&4 said it is given to some extent.

Reviewers' responses on the design of teachers guide are positive. Teacher guides of grade 1-4 are to a large extent easy to understand and use and teacher guide address the teachers. (*Extra question for teachers*).

2. Activities and Methods: Most of the teachers said that teacher guide of grade 3 helps a teacher to teach text and extend activities by keeping contextual realities in view, however, teachers guides of grade 1, 2 & 5 help to a large extent and teacher guide of grade 4 helps to some extent. Most of the teachers said that teacher guide of grade 3 provides various teaching strategies and rationale for suggested teaching, teacher guide of grade 5 provides it to a large extent and teacher guides of grade 1, 2 & 4 provide it to some extent. Most of the grade 3 & 4 teachers said that teacher guide provides extended activities and show how to conduct them however; most of the teachers of grade 1, 2 & 5 reported it to some extent. Most of the teachers said that teacher guide of grade 3 identify constraints and strengths of each strategy or activity, however, in the guide of grade 1 it is identified to a large extent, in the guide of grade 2 & 4 it is to some extent and in the guide of grade 5 it is not at all identified.

Reviewers found that the teacher guides provide various teaching strategies and rationale for suggested teaching. Teacher guides of grade 3, 4 & 5 help a teacher to teach text and extend activities by keeping contextual realities in view and provides extended activities and show how to conduct them, while teacher guides of grade 1 & 2 provide it to a large extent. Teacher guides of grade 3, 4 & 5 identify constraints and strengths of each strategy however; in teacher guides of grade 1 & 2 no constraints and strengths have been identified.

3. Materials and Information: Most of the grade 3 teachers said that teacher guide provides additional teaching, learning resources and explains how to implement each instructional strategy. Most of the grade 1, 2 & 5 teachers said that teacher guides provide

additional teaching learning resources to some extent however, grade 2 teachers said that additional resources are very little provided in the teacher guide. Most of the teachers said that teacher guides of grade 1 & 5 to a large extent explain how to implement each instructional strategy however, teacher guides of grade 2 & 4 explain it to some extent. Most of the teachers said that teacher guides of grade 1 & 3 to a large extent explain how and where teacher can develop low cost and no cost materials, however, teacher guides of grade 2 & 5 explain it to some extent and guide of grade 4 explain it very little.

Reviewers found that teacher guides of grade 3, 4 & 5 provide additional teaching learning resources while there are no additional teaching learning resources in guides of grade 1 & 2. For all grades these guides explain how to implement each instructional strategy. Teacher guides of grade 1, 2, 4 & 5 to a large extent explain how and where teacher can develop low cost and no cost materials however to some extent this information is given in the guide of grade 3.

4. Enhancement of Knowledge: Most of the teachers said that there is further reading material in teacher guide of grade 3, however, in teacher guides of grade 1, 2 & 5 it is to a large extent and in grade 4 to some extent. Most of the teachers said that additional reading materials for teachers are recommended in teacher guides of grade 3 & 5, whereas it is to a large extent in guides of grade 1 & 2 and very little in guide of grade 4. Most of the teachers said that these guides expand and develop teachers repertoire of knowledge and skills. Most of the teachers said teacher guides of grade 3 & 5 contain information sources for teacher ongoing professional development, however, guides of grade 1 & 2 have these sources to a large extent and guide of grade 4 to some extent.

Reviewers found that further reading material is given in the guides of grade 3, 4 & 5 however, in the guides of grade 1 & 2 it is given to some extent. Teacher guides of grade 3, 4 & 5 expand and develop teacher repertoire of knowledge and skills however, it is to a large extent for guides of grade 1 & 2. Teacher guides recommend additional reading material for teachers. These guides to a large extent contain information sources for teacher ongoing professional development.

5. Assessment: Most of the teachers said that teacher guides of grade 3 & 4 familiarize teacher with various assessment strategies however, guides of grade 1, 2 & 5 to a large extent familiarize teachers with assessment strategies. Most of the teachers said guides of grade 1, 3, 4 & 5 explain each assessment strategy whereas guide of grade 2 explains it to some extent.

Reviewers found that these guides familiarize teachers with various assessment strategies. Teacher guides of grade 4 & 5 explain each assessment strategy, however guides of grade 1, 2 & 3 to a large extent explain each assessment strategy.

3. Mathematics – Grades 1-5

1. Design for user friendliness, interest and ease of understanding:

Most of the teachers of grade three and four reported the teacher guide is easy to understand and use to a large extent, however, most of the grade two teachers said that this was so only to some extent, and most of the grade one and five teachers reported it to be not at all easy to understand and use.

Reviewers found that the teacher guides of grade two and three are easy to understand and use, however, the teacher guides for grade one, four and five were less easy to understand and use. Reviewers found that in the introduction of teacher guides general philosophy of curriculum has been given. Reviewers found that brief overview of the structure of textbooks in various units and inclusion of skill focus and main teaching points for each unit have not been given in teacher guides. Reviewers found that SLOs for each unit have been stated. (*Extra questions for reviewers*)

2. Activities and Methods:

Most of the teachers of grade two said that in teacher guide sequenced instructions for each activity have been given, however, most of the grade four teachers reported this to be so only to some extent and most of the grade one, three

and five teachers said that the teacher guides are not at all in sequence. Most of the grade two and four teachers said that to some extent various up to date and relevant teaching strategies and rationale for suggested teaching have been involved, however, most of the grade one, three and five teachers reported that these were not included. Most of the grade two and five teachers said that to a large extent teacher guides explain how to implement each teaching strategy, however, most of the grade four teachers' said this was so to some extent and most of the grade one and three teachers reported that it was not at all explained. Most of the grade three teachers' said that to a large extent teacher guides identify constraints and strengths of each strategy, however, most of the grade two teachers reported this was so to some extent and most of the grade one, four and five teachers said that teacher guides did not identify constraints and strengths of each strategy.

Reviewers found that in teacher guides sequenced instructions for each activity have been given. Reviewers found that in the guide of grade one, two and five various up to date and relevant teaching strategies and rationale for suggested teaching have been given however, in the guides of grade three and four this was so to a large extent. Reviewers found that explanation of how to implement each teaching strategy has been given in the guides. Reviewers found that identification of constraints and strengths for each strategy has hardly been made in the guides.

3. Material and Information: Most of the teachers said that in teacher guides of grade 1, 2 & 4 resources are to a large extent identified for teaching strategies and extension of activities however; in teacher guides of grade 3 & 5 resources are not at all identified. Most of the teachers said that in teacher guides of grade 3, 4 & 5 teaching learning resources are to a large extent included, however, in the guide of grade 3 they are included to some extent and in the guide of grade 1 they are not included at all.

Reviewers found that resources for teaching strategies and extension of activities are to a large extent identified in teacher guides of grade 3 & 5 however, in teacher guides of grade 1, 2 & 4 this is so to some extent. Teaching learning resources are included in the teacher guides. These guides to a large extent explain how and where teacher can develop low cost and no cost material.

4. Enhancement of Knowledge: Most of the teachers of grade 2, 4 & 5 said that teacher guides to a large extent expand and develop teacher's repertoire of knowledge and skills, however, guides of grade 1 & 3 are deficient in this aspect.

Reviewers found that to a large extent these guides expand and develop teacher's repertoire of knowledge and skills and contain information sources for teacher's ongoing professional development. (*Extra question for reviewers*)

5. Assessment: Most of the teachers said that a question bank and interactive quizzes corresponding to each unit are established to a large extent in the guides of grade 1 & 4, however, this is so only to some extent in the guide of grade 2 and not at all in the guides of grade 3 & 5. Most of the teachers said that in the guides of grade 1 & 4 assessment strategies are identified to a large extent however, in the guide of grade 2 to some extent, and not at all in the guides of grade 3 & 5.

Reviewers found that a question bank and interactive quizzes corresponding to each unit are established to a large extent in teacher guides of grade 2 & 5 but only to some extent in the guides of grade 1, 3 & 4. The teacher guides identify assessment strategies for all grades.

Summary Responses

Both teachers and reviewers found teacher guide design of English and Science favorable. For teacher guide of Mathematics reviewers had positive opinion with rating 5 whereas teachers of grade 1 & 5 found teacher guide is not easy to understand and use as they rated 1 for design. (Reviewers assumed that the hidden reason of this low rating might be the textbook of grade five is old and teacher guide is based on new curriculum. One of the reasons of this low rating in grade one might be that an overview of structure of the textbook in various units and inclusion of skill focus and main teaching points for each unit has not been given).

With regard to activities and methods reviewers responses were favorable with rating 4 & 5. Whereas teachers responses were also favorable with rating 4 in English and Science and one low rating in Mathematics

mostly from teachers of grade 1, 3 & 5 on activities and methods of teacher guides. According to most of the teachers these guides have not involved up to date and relevant teaching strategies, constraints, strengths and sequenced instructions for each activity.

Reviewers had more favorable responses with rating 4 & 5 with regard to material and information. Whereas teachers ratings were slightly lower between 3 & 4. On enhancement of knowledge, generally responses were

favorable across subjects and grades with reviewer's rating 5 and teachers' rating 4.

On assessment again responses were generally favorable with reviewers' higher ratings 5 and teachers' ratings between 4 & 5. Whereas teachers of grade 3 and 5 providing low rating (1) in Mathematics. According to these teachers guides of grade 3 and 5 have not established and identified assessment strategies. (Table 4)

Table 4: Teachers & Teacher Guide Reviewers Most Frequent Responses

Subjects	Grade	Design		Alignment		Activities and methods		Material and information		Enhancement of knowledge		Assessment	
		T	R	T	R	T	R	T	R	T	R	T	R
English	1-5	5	5	3	5	4	5	3	5	4	5	5	5
Science	4&5	5	5	3	5	4	4	4	4	4	5	4	5
Math	1-5	1,4	5	3,4	5	1	5	4	4	4	4	1,4	5

Note: "T" stands for Teachers and "R" stands for Reviewers.

7. Summary and Conclusion

In this section we assess the degree of alignment between the textbooks and teacher guides and present possible reasons for the differences in opinion of teachers and reviewers.

Alignment between Textbooks and Teacher Guides:

Reviewers have given a high rating to the alignment between all books and guides for all subjects at 5. Rating by teachers for most books for all subjects with guides is 3, except one higher rating of 4 from teachers' of grade 1 & 2. (Refer to table 4).

For Grades 4&5 in Science, most of the teachers reported that the teacher guide is based on accompanying textbook skills, knowledge and strategies for teachers with grade five teachers finding this to a large extent and grade four teachers to some extent. Reviewers' response on the alignment of teacher guide with textbook is that the teacher guide of grade four is based on accompanying textbook skills, knowledge and strategies for teachers, however, reviewers' response on grade five teacher guides is to some extent. Most of the teachers of grade four said that to a large extent each unit of teacher guide is in sequence corresponding to textbook for ease of cross referencing, however most of the teachers of grade five said that each unit of teacher guide corresponds very to the textbook sequence for ease of cross referencing. Teacher guide reviewers found that each unit of the teacher guide for grade four is written in sequence corresponding to textbook for ease of cross referencing. However, the teacher guide for grade five is not written in sequence at all. Most teachers of grade four and five reported that the use of teacher guide is effective with new textbook to some extent.

For grades 1-5 in English most of the teachers of grade 1, 3 & 4 said that the teacher guide is based on accompanying textbook skills, knowledge and strategies for teachers. However, teachers of grade 2 said this is so to a large extent and according to grade 5 teachers it is to some extent. Reviewers found that the teacher guides

of grade 1 & 2 are to a large extent based on accompanying textbook skills, knowledge and strategies for teachers, however for grade 3 & 4 this is so to a very small extent, and for grade 5 they are not at all based on accompanying textbook skills. Most of the teachers of grade 3 said that each unit of teachers guide is written in sequence corresponding to textbook, however, teachers of grade 1 said it is so to a large extent, teachers of grade 2 said it is so to some extent, teachers of grade 4 said it is very little and teachers of grade 5 said it is not at all written in sequence corresponding to textbook. According to the reviewers for grade 1 each unit of teacher guide is to a large extent written in sequence corresponding to textbook however for grade 2, 3, 4& 5 teacher guides are not at all written in sequence.

Most of the teachers of grade 1 & 2 find the use of English teacher guides to a large extent effective with new textbooks. Most of the grade 3 teachers said that the teacher guide is not at all related to the old textbook; however, teachers of grade 4 said it is related to some extent and according to grade 5 teachers it is very little related to old textbook.

For Mathematics most grade one, two and four teachers said that to a large extent teacher guides help teachers to teach text and extend activities, however, most of the grade three and five teachers said that teacher guides did not help teachers in these areas. Reviewers found that the teacher guide of grade one helps teachers to teach text and extend activities, and even the guides for grade two, three, four and five it helps teachers to a large extent. Reviewers also found that the guide for grade one, two and three each unit is written in sequence corresponding to textbooks for ease of cross referencing, however for grade four this so only to some extent and for grade five it does not follow the sequence of textbook at all.

Most of the grade one and two teachers find the use of Math teacher guides effective with new textbooks; however, most of the teachers of grade three said that it is not at all effective. Most of the grade four and five teachers find little linkage between the teacher guides and textbooks.

Conclusion

New teacher teaching-learning materials are finally becoming available. The first complete draft of the teacher guides were published in 2011 and the first set of three new textbooks were published the same year and made available to teachers and students for the academic years 2011-2012 and 2012-2013: (Annex 4)

- 3 books for grade 1 for the 2011 academic year
- 10 books for grade 1 to 4 for the 2012 academic year

The new textbooks selected by the Punjab Textbook Board and the teacher guides developed by the Directorate of Staff Development show a high degree of alignment for which the credit goes to the new curriculum which provided guidelines for both institutions. Although the two concerned organizations the DSD and the PTB worked independently the guidelines given in the curriculum were clear and comprehensive resulting in ensuring that the teacher guides to a large extent support the textbooks.

Differences in assessment of textbooks and teacher guides made by reviewers and teachers stem from a number of factors. These include:

Specific factors:

- Different opinions emerge because of different perspective of teachers and reviewers. Reviewers have considered pedagogical aspects and teachers have responded on the basis of their daily experiences in the classroom.
- The main reason behind this variation of low and high rating is that the teacher guides were not available during training of primary school teachers and the core of each instructional strategy and learning resources was not discussed in detail.
- In the teaching of Science, Mathematics, Social

Studies and General Knowledge the reviewers found the materials/contents accurate and relevant in the context of urban schools, however, teachers work in schools with different environments located in different part of the province with regional and linguistic variations and have thus rated it 3.

- In the teachers view the new textbooks are better and enhance the knowledge and skills as compared to old textbooks. The teachers have used old and new textbooks and according to them the new textbooks have enough instructions for teachers as compared to old textbooks. However, according to reviewers even new textbooks do not have enough instructions for the implementation of new techniques and technology.
- The teachers use teacher guides along with textbooks and are more familiar with textbooks and teacher guides as compared to reviewers thus they have found teacher guides assessment questions to be similar to those in the textbooks.
- Furthermore, not all textbooks have been developed according to the new curriculum as yet, as such there are likely to be gaps in alignment with the teacher guides all of which take the new curriculum into consideration.

General reasons:

- Language emerges as an issue in that teachers find it difficult where the terminology is given in English and the text is in Urdu.
- For teaching Mathematics conceptual clarity requires using different approaches to explain the same question which teachers lack.
- The demands of the new curriculum require adequate number of teachers that is one teacher for every grade and better qualified teachers.
- The limitations of training which is attempting to meet the pedagogical deficit in terms of teacher performance and which does not always cover all the requirements of the teacher guide, textbooks or curriculum.
- High degree of teacher absenteeism and unscheduled holidays leading to difficulty in completing the syllabus which is activity based and no longer based on rote learning.

Annex 1: Teacher Data

Teacher Qualifications

	Total
Matric+CT/PTC	25
FA+CT	6
BA/BSc	3
BA/BSc+CT/ Hon	11
BA/BSc+BEd	17
MA/MSc	8
MA/MSc+BEd, MA+MEd	32
Total	102

Teacher and School Information

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization
Lahore	GPS (Urban)	Co-ed	M	BSC. CT	PST(09)	Class teacher	1	
			F	BA BEd	PST(09)	Class teacher	2,4	
			M	BSC Honours	EST(09)	Subject teacher	3,4,5	Physics
			F	BA BEd	PST(09)	Class teacher	3	
	GGHS (Rural)	Co-ed	F	Matric PTC	PST(10)	Class teacher	1	
			F	Matric PTC	PST(12)	Class teacher	1	
			F	Matric PTC	PST(09)	Class teacher	2	
			F	MA Education	PST(09)	Class teacher Math (G 4)	3	Education
			F	Matric PTC	PST(09)	Class teacher Urdu(G 3)	4	
			F	BA BEd	EST(14)	Class Teacher	5	

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization	
	CDGL GPS (Urban)	Co-ed	F	MA	PEN Teacher	Class Teacher	1	Political Science	
			F	BA BEd	PEN Teacher	Class Teacher	2		
			F	M.A Education	PST(09)	Class teacher	3,4,5	Education	
	GGPS (Rural)	Girls	F	FA CT	PST(09)	Class teacher	1,2		
			F	Matric PTC	PST(09)	Class teacher	3,4,5		
	CDG GHS (Urban)	Co-ed	F	MA BEd	CARE teacher	Class teacher	1		
			F	MA	CARE teacher	Class teacher	2	History, Urdu	
			F	MA BEd	PST(09)	Class teacher Subject teacher	3,4		
			F	MA BEd	PST(09)	Class teacher	4	Economics, Urdu	
			F	MA BEd	PST(09)	Subject teacher English and Science	3,5	Political Science	
			F	MA	PST(09)	Subject teacher English	4,5	English	
			F	MA	PST(09)	Subject teacher Math	5	Islamiyat, Education	
	GPS (Rural)	Co-ed	F	BA BEd	PST(09)	Class teacher	1		
				M	BA CT	PST(09)	Class teacher	2,5	
				M	MA MEd	PST(09)	Subject teacher English	5	
				F	BSc BEd	ESE(09)	Subject teacher	3,4,5	Math, Physics, Chemistry
F				MA BEd	PST(09)	Class teacher	3,4	Islamiyat	

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization
Lodhran	GGES Urban	Girls	F	Matric PTC	PST(14)	Class teacher	1	
			F	BA BEd	PST(09)	Class teacher	1	
			F	MA BEd	ESE(09)	Subject teacher	2,4	
			F	FA PTC	PST(09)	Class teacher	2	
			F	FA CT	PST(12)	Class teacher	3	
			F	MA MEd	ESE(09)	Class teacher	4	
			F	MA MEd	PET(14)	Subject teacher English	5	
			F	MSc BEd	SESE(14)	Subject teacher Math	5	Math
			F	BSc BEd	SESE(14)	Subject teacher Science	5	
	GGES Urban	Girls	F	MA BEd	ESE(09)	Class Teacher	1,5	
			F	BA BEd ATTC	SESE(14)	Class teacher	2	
			F	MA MEd	ESE(09)	Class teacher	3	
			F	MA BEd	SESE(14)	Class teacher	4	
	GGPS Rural	Girls	F	BA BEd	PST(09)	Class teacher	1,3,4	
			F	BA BEd	PST(09)	Class teacher	2,5	
	GPS No 3 Urban	Boys	M	Matric PTC	PST	Class teacher	1	
			M	Matric PTC	PST (14)	Subject teacher Urdu	2	
			M	BSc CT	PST(09)	Class Teacher	2	
			F	MA MEd	PST(09)	Class teacher	3	Education
			M	Matric PTC	PST	Class teacher	4	
			M	BSc	ESE(09)	Subject teacher Science, Math	4	
			M	BA	PST	Class teacher	5	

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization
	GES Rural	Boys	F	BA BEd	PST(09)	Class teacher	1	
			M	MA MEd	PST(12)	Class Teacher	2	
			M	MA	PST(12)	Subject teacher English	3,4,5	English
			M	MA BEd	PST(09)	Subject teacher Math and Science	3,4,5	Islamiyat
			M	Matric PTC	PST	Subject teacher Urdu	3	
			M	MA MEd	PST (12)	Subject teacher Social studies	4	
	GPS Rural	Boys	M	BPS	PST(09)	Class teacher	1	
			M	BA MEd	PST(09)	Subject teacher English, Math, Social Studies	2,3,4	
			M	MA MEd	PST(09)	Class teacher	2	
			M	MA BEd	PST(09)	Subject teacher Urdu ,English	2,3,5	
			M	MSC	ESE(09)	Subject teacher Math, Science	4,5	Physics
			M	MA MEd	PST(12)	Subject teacher Math	5	
Pakpattan	GGPS Urban	Girls	F	MA MEd	PST(09)	Subject teacher English, Social Studies	1,2,4	History
			F	Matric PTC	PST(09)	Subject teacher Math	1,3	

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization
			F	FA PTC	PST(12)	Subject teacher General Knowledge	1,2	
			F	Matric PTC	PST(14)	Subject Teacher Urdu	1	
			F	BA CT	PST (12)	Subject teacher Math	2	
			F	Matric PTC	PST(09)	Subject teacher Urdu	2	
			F	Matric PTC	PST(12)	Subject teacher English, Urdu	3	
			F	BA PTC	PST(12)	Subject teacher English, Math	4	
			F	BA BEd	PST(09)	Subject teacher Science	4	
			F	BA BEd	PST(14)	Subject teacher English, Math	5	
			F	MA BEd	PST(12)	Subject teacher Science	5	Pakistan Studies
	GHS Urban	Boys	M	Matric PTC	PST(12)	Class Teacher	1	
			M	FA PTC	PST(09)	Class Teacher	2	
			M	Matric PTC	PST(12)	Class Teacher	3	
			M	BA BEd	PST(14)	Subject teacher English	3	
			M	Matric PTC	PST(12)	Class teacher	4	
			M	BA BEd	EST(15)	Subject teacher English	5	
			M	Matric PTC	PST(14)	Subject teacher Science, Math	5	

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization
	GGHS Urban	Girls	M	Matric PTC	PST(12)	Subject teacher English	1	
			F	BA PTC	PST(14)	Subject teacher Math	1,2	
			F	M.A	S.V(15)	Subject teacher General Knowledge	1	English Urdu
			F	Matric PTC	Drawing Master	Subject teacher Urdu	1	
			F	M. MEd	EST(14)	Subject teacher English	2	English
			F	Matric PTC	PST(12)	Subject teacher General Knowledge, Urdu	2	
			F	Matric PTC	PST(14)	Subject teacher English	3	
			F	MA	PST(09)	Subject teacher Math, Science	3,5	
			F	MA M.Ed	PST(09)	Subject teacher English	4,5	
			F	Matric PTC	PST(09)	Subject teacher Urdu	3	
			F	BA PTC	PST(09)	Subject teacher Science, Math	4	
			F	BA PTC	PST(12)	Subject teacher Social studies	4	
	GPS Rural	Boys	M	BA BEd	PST (09)	Class Teacher	1,4	
			M	FA PTC	PST(12)	Class teacher	2	
M			Matric PTC	PST(12)	Class teacher	3,5		

District	School Name	School Gender	Teacher Gender	Qualification	Basic Pay Scale	Designation	Grade	Specialization
	GES Rural	Boys	M	BA CT	PST(12)	Class teacher	1	
			M	BA BEd	EST(14)	Class teacher	2	
			M	BA CT	PST(09)	Class teacher	3	
			M	BA PTC	PST(12)	Class teacher	4	
			M	Matric PTC	PST(12)	Class teacher	5	
	GGPS Rural	Girls	F	MA MEd	PST(09)	Class teacher	1,5	Economics
			F	MA BEd	PST(09)	Class teacher	2,4	
			F	MA BEd	PST(09)	Class teacher	3	Islamiyat
	Total	18 Schools	Co-ed: 5 Boys: 6 Girls: 7	102 Teachers				

Annex 2: Study Tools for Textbook Analysis

Number of Questions in Textbooks study Tools

Questions	General Science	General Knowledge	Math	English	Urdu	Social Studies	Total
Number of Questions for Teachers	15	17	16	22	14	18	102
Number of questions for Reviewers	18	22	29	30	26	32	157
Different questions	3	5	13	8	12	14	55

Extra Questions for Textbook Reviewers

Subjects	Categories	Number of questions	Total No. of questions
1. English	1. Textbook design for user friendliness, interest and ease of understanding	5	8
	6. Enhancement of knowledge	2	
	7. Language	1	
2. Mathematics	1. Textbook design for user friendliness, interest and ease of understanding	6	13
	3. Content accuracy and coverage	3	
	6. Enhancement of knowledge	3	
	8. Assessment	1	
3. General Science	1. Textbook design for user friendliness, interest and ease of understanding	3	3
4. General Knowledge	1. Textbook design for user friendliness, interest and ease of understanding	3	5
	4. Higher order thinking skills	2	

Subjects	Categories	Number of questions	Total No. of questions
5. Social Studies	Textbook design for user friendliness, interest and ease of understanding	4	14
	3. Content accuracy and coverage	3	
	4. Higher order thinking skills	1	
	6. Enhancement of knowledge	3	
	7. Language	2	
	8. Assessment	1	
6. Urdu	1. Textbook design for user friendliness, interest and ease of understanding	6	12
	3. Content accuracy and coverage	4	
	6. Enhancement of knowledge	1	
	7. Language	1	
Total			55

Annex 3: Tools for Teacher Guides Analysis

Number of Questions in Teacher Guides Review Tools

Subjects	General Science	Math	English	Total
Number of Questions for Teachers	23	13	23	59
Number of questions for Reviewers	24	17	24	65
Different questions	1	4	1	6

Extra Questions for Teacher Guide Reviewers

Subjects	Categories	Number of questions	Total number of Questions
English	Teacher Guide design for user friendliness, interest and ease of understanding	1	1
Mathematics	Teacher Guide design for user friendliness, interest and ease of understanding	2	4
	Material and information	1	
	Enhancement of knowledge	1	
General Science	Textbook design for user friendliness, interest and ease of understanding	1	1
Total		6	6

Annex 4: Publication of New Textbooks

Date of Publication of New Textbooks

S. No.	Textbook	Grade	Year of Publication (First edition)	Academic Year
1.	Meri kitab	1	March 2011	2011-2012
2.	Mathematics	1	March 2011	2011-2012
3.	English	1	March 2011	2011-1012
4.	General Knowledge	1	Feb 2012	2012-2013
5.	Urdu	2	March 2012	2012-2013
6.	Mathematics	2	Feb 2012	2012-2013
7.	English	2	Feb 2012	2012-2013
8.	General Knowledge	2	Feb 2012	2012-2013
9.	Mathematics	3	Feb 2012	2012-2013
10.	Urdu	3	March 2012	2012-2013
11.	Islamiat	3	Feb 2012	2012-2013
12.	Social Studies	4	Feb 2012	2012-2013
13.	General science	4	April 2012	2012-2013