

Rationalization of School Curriculum

Background

The conventional teacher centred and rote learning form of education has served us well through ages. As the education system in Bhutan embraces the 21st Century education framework and principles, it warrants a paradigm shift in curriculum design and development, including the pedagogy, commensurate the competency based learning. An approach, which underscores that learning in the 21st century, is for the development of competencies through active engagement of learners in learning experiences, guided by formation and utilisation of “working knowledge”. This empowers learners to take responsibilities of their learning and develop “portable skills or soft skills,” such as critical thinking, creativity, communication and collaboration, vital for all as individuals with unique talent and competencies. The current culture of curriculum design and practices in schools, however, do not render condition to facilitate realisation of the national aspiration of nurturing “nationally rooted and globally competent” citizen.

Amongst others, it has always been a concern for REC on the extent, relevancy and quality of the curriculum in all subjects. Thus, in order to facilitate quality learning for 21st Century education, REC has initiated major curriculum reform in all subjects.

Rationale

The Bhutan Education Blueprint 2014-2024 indicated that the existing curriculum was ‘heavy’. This was echoed as one of the major pointers in the National School Curriculum Conference 2016 that the curriculum was ‘vast’. These findings led to the need for curriculum “thinning” [Resolution 3.1.10 (IV)]. In response to these findings, REC started the rationalization of the existing curriculum by reviewing and screening out the obsolete and irrelevant content, and updating them with the most recent information and also rectifying errors in the textbooks. Therefore, some portions of the syllabi from several subjects, for instance, have been dropped. The rationalization or thinning of curriculum is one of the important considerations made while developing new textbooks based on new curriculum frameworks.

The curriculum rationalization process also aligns very well with Resolution 13 of the National Education Conference 2018 of “Doing away with the Saturday classes”. The para 13.4 of the resolution requires ‘REC to work on curriculum thinning and review of time allocation for each subject’. This resolution has further facilitated REC to expedite the curriculum rationalization and review the time and period allocation for each subject.

Rationalization of the school curricula is based on the following strategies:

- i. Review the goals and outcomes of each subject to identify topics, chapters, learning activities, exercises and assessment.
- ii. Develop rationalized syllabus for each subjects ensuring conceptual linkages and progression within the chapter or topic in the textbooks.
- iii. Minimize lexical density in text by reducing heavy textual materials from the textbooks.

- iv. Remove topics, learning activities or assessment items, which are redundant, overlapping irrelevant or inappropriate.
- v. Delete irrelevant or inappropriate illustrations or diagrams, and examples from the text.
- vi. Update and align the content width and depth with the teaching time available for each subject.
- vii. The revised syllabi for each subject are categorised and compiled under four subject classifications, namely STEM, Social Sciences, Language, and TVET & Commercial Studies.

The review of the instructional time allocation is based on the following criteria:

- i. Maintain the instructional time requirement at the international standard.
- ii. Maintain gradual increase of instructional time across most of the key stages.
- iii. Reduce the instructional time for each subject across the grades based on the doing away of the Saturday classes.
- iv. Allocate time for personal development learning areas, such as HPE, Arts Education, Values Education, CGC, TVET Program (clubs and PVOP).
- v. Non-curricular activities and programmes are to be conducted outside the instructional hours.
- vi. Calculate 150 actual curricular instructional days (excluding examination days in June and November months) in an academic year based on 5 working days per week.
- vii. Calculation of instructional time is based on 8 periods a day of 40 minutes each.

Conclusion

Instructional time refers to the actual contact time in the classroom. This is the minimum time available for the delivery of the curriculum including assessment. Instructional Time equals to number of days multiplied by number of periods per day times duration of one period (180 x 8 x 40). The rationalization of the curriculum is based on 150 days of the actual instructional time.

Instructional days are the total number of days within which the curricular activities are conducted. Within these days, a maximum of 5.33 hours (320 minutes) are available for actual classroom instruction per day. This calculation is based on 8 periods a day of 40 minutes each. The average instructional time in the OECD countries ranges from 799 to 915 hours per year. This includes all the educational activities that happen in the school in a day. However, the calculation of instructional time for the rationalized curriculum is based on the actual contact time for curriculum delivery, which has resulted in more instructional time than in OECD countries.

Lastly, it must be noted that the instructional time and days are suggested guide. Thus, it is envisaged that schools will make adjustment in instructional time as deemed applicable.

Class: VII

Subject: Geography

Sl No	Strand/Unit/Chapter/Topic	Time (mins)	Weighting (%)	Changes	Reasons
1	Nature & scope of Geography	160	2	No changes	New curriculum implemented in 2019
	The Earth in the solar system	160	3		
	Latitude and Longitude	320	5		
	River system	480	8		
	Landforms	320	8		
	Rocks and Minerals	480	9		
	Atmosphere	320	6		
	Weather & Climate	320	8		
	Natural vegetation	320	8		
	Population	480	9		
	Settlement	160	7		
	Environment	480	9		
	Natural resources	480	9		
	Hazard & Disaster	320	9		
	Total	4800	100		

Note:

1. **Change** refers to addition, removal revision of contents
2. **Reasons** refers to the reasons for addition, removal revision of contents

Class VIII Subject: Geography

SI No	Strand/Unit/Chapter/Topic	Time (mins)	Weighting (%)	Changes	Reasons
1	Population: Growth & change	144	3	No changes as in 2020 new curriculum will be implemented	
	Population: Distribution & Planning	144	3		
	Agriculture in Bhutan	288	6		
	Factors Influencing Agriculture	288	6		
	Animal Husbandry		5		
	Using the Forest resources	240	5		
	Using Water & Energy resources	240	4		
	Using Minerals Resources	192	4		
	Industry	192	4		
	Transport System	192	4		
	Asia- Land, Climate, Vegetation & Wildlife	384	8		
	Asia- Natural Resources	192	4		
	Asia-The People	96	2		
	India- Physical Environment	288	6		
	India Agriculture	0	0	Removed and time and weighting allotted to Bhutan Geography	Not relevant and focus to be accorded to Bhutan
2	Lithosphere	288	6		
3	Rocks and Soils	144	3		
4	Process and Agents of gradation-Rivers and Glaciers	288	6		
5	Contours	576	12		
6	Map of India, Asia and Bhutan	432	9		
	Total	4800	100		

Class: IX Sub: Geography

Sl No	Strand/Unit/Chapter/Topic	Time (mins)	Weighting (%)	Changes	Reasons
1	Formation of Himalayas	260	7		Bhutan Geography (40%)
	Rocks and Minerals	200	6		
	Soils	200	6		
	Climate	260	7		
	Forests & Wildlife	200	6		
	Rivers and their erosional work	300	8		
	Difference between weather and climate	260	7		Principle of Geography (30%)
	Elements of weather and climate(temp, pressure and rainfall)	260	7		
	The Earth's crust	220	7		
	Meaning of weathering	80	3		
	Permeable and impermeable rocks	260	6		
2	Topo-sheet	500	15		Topo-sheet and Map work (30%)
3	Map of India, Asia and Bhutan	500	15		
	Total	3600	100		

Class: X

Sub: Geography

Sl No	Strand/Unit/Chapter/Topic	Time (mins)	Weighting (%)	Changes	Reasons
1	Rural and Urban settlements	200	6		Bhutan Geography (40%)
	Farming practices and agricultural land use	260	7		
	The growth of industries	260	7		
	Sources of energy	200	6		
	Trade, transport and communication	260	7		
	People and environment	260	7		
	Shape of the earth	200	6		Principle of Geography (30%)
	Position on the globe	260	7		
	Movement of the Earth	260	7		
	Equatorial forests- Rubber cultivation in Malaysia and Cocoa in Ghana	80	2	Rubber cultivation in Malaysia removed in 2017	
	Tropical grasslands-Savannah: The Masai herder of Tanzania	0	0	Tropical grasslands-Savannah: The Masai herder of Tanzania- removed	
2	Mediterranean Lands- Orchard farming in Mediterranean Lands of Western Europe and California	80	2	Orchard farming in Mediterranean Lands of Western Europe -removed	
3	Hot Deserts- the Dwellers of Sahara	0	0	Hot Deserts- the Dwellers of Sahara- removed	
4	Temperate Grasslands- Prairies (Canada) and Steppes (Russia)	80	2	Temperate Grasslands- Steppes (Russia)- removed	
5	Coniferous forests: lumbering and trapping in Canada	80	2	Coniferous forests: trapping in Canada - removed	
6	Tundra: its dwellers	80	2	Tundra: its dwellers	
7	Topo-sheet	520	15		Toposheet and Map work (30%)
8	Map of India, Asia and Bhutan	520	15		
	Total	3600	100		

Class: XI

Sub: Geography

Sl No	Strand/Unit/Chapter/Topic	Time (mins)	Weighting (%)	Changes	Reasons
1	Structure and composition of the Earth	300	4	Status quo	
	Rocks	280	4		
	Soils	280	4		
	Endogenetic processes and its effects on the surface of the Earth	320	4		
	The work of a river	280	4		
	Aeolian processes and associated landforms	280	4		
	Work of Glaciers	280	4		
	Work of Underground water	222	3		
	Composition and structure of the atmosphere	360	5		
	Importance of atmosphere	160	2		
	Insolation and temperature	360	5		
	Atmospheric pressure and winds	360	5		
	World climate types	360	5		
	Ecology and Ecosystem	720	10		
	Flora and Climate	720	10		
	Natural Hazards: their causes and management	760	11		
	Remote sensing and GIS	300	4		
	Map work	168	2		
	Map Projections (Practical)	720	10		
	Total	7200	100		

Class: XII

Sub: Geography

SI No	Strand/Unit/Chapter/Topic	Time (mins)	Weighting (%)	Changes	Reasons
1	Population	740	10	Status quo	
	Settlements	740	11		
	Agriculture	300	4		
	Major food crops and livestock of Bhutan	300	4		
	Energy Resources	300	4		
	Industrial resources	300	4		
	Tertiary resources	300	3		
	Human resources	300	4		
	Transport	720	10		
	Communication	760	11		
	Nature conservation	1000	15		
2	Drawing of scales	360	5		
3	Drawing of cross section	360	5		
4	Map reading and interpretation	360	5		
5	Surveying	360	5		
	Total	7200	100		