National Curriculum Framework 2021

Pre-Primary to Grade 12

National Curriculum and Textbook Board, Bangladesh

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Preface

Life and livelihood are changing every moment in this shifting world because of the rapid advancement of knowledge, skills, and technology. The thriving artificial intelligence in this Fourth Industrial Revolution era is bringing a fast and huge change in employment and lifestyle. It is reducing traditional employment opportunities on the one hand and creating possibilities for new ones on the other. We do not yet know what kind of world of work is waiting for us in the near future.

Despite the massive economic growth across the world, fundamental problems like hunger, poverty, and illiteracy still persist. That's why problems like climate change, air pollution, migration, and ethnic conflicts are so prevalent today. That's why a pandemic like COVID-19 emerges. However, in spite of the immense impact of all these problems that we face in our day- to-day lives, we see new windows of opportunities opening one after another in front of us.

The most important thing is to now solve the current problems sustainably and effectively and to transform our demographic advantage into resources. For this reason, we need a far-sighted, sensitive, adaptive, humane, competent, and patriotic global citizen with adequate knowledge, skills, values, and a positive attitude. Bangladesh is transforming its status from a least- developed country to a developing one, with a view to becoming a developed country by 2041.

In this context, instead of a few changes, we need total transformation in education. To this end, the National Curriculum and Textbook Board conducted a number of research studies and technical exercises on primary and secondary education during 2017–19. Based on the findings, a committee consisting of renowned educationists, specialists, and teachers from different levels formulated the National Curriculum Framework—2021. It was approved at the meeting of the National Curriculum Coordination Committees, formed by the Ministry of Education and the Ministry of Primary and Mass Education.

Subject-specific curriculum and learning materials were formulated and developed in accordance with the National Curriculum Framework 2021.The emphasis was placed on making the classroom activities more joyful and student-centric by using suitable learning materials along with the textbooks. Class activities will not be confined only to the classrooms anymore. The students will go beyond their classrooms and sometimes beyond their school

campus to go through the experiential learning process. They will also get the opportunity to use digital technology. We hope that the successful implementation of the Framework will enable our future generation to face 21st-century challenges in order to be competent citizens.

I would like to take this opportunity to give thanks to UNICEF, which throughout the whole process of formulating the National Curriculum Framework 2021 provided us with technical support. Also, I would like to express my gratitude to the Institute of Educational Research of Dhaka University and to the others who worked hard for Framework in general and editing, illustrating, and publishing in particular.

Professor Md. Farhadul Islam
Chairman
National Curriculum and Textbook Board
Bangladesh

1.1
Background of curriculum development

Every human being expects to live a fulfilling life. Just as they want to make that life beautiful and pleasant, they also want to see themselves in a meaningful place in familial, social, and global contexts. One of the main objectives of education is to create attitudes and opportunities that make people's lives beautiful, joyful, and meaningful while turning them into skilled, creative, and humane individuals capable of earning a living. Similarly, another purpose of education is to develop individuals as responsible citizens in a changing environment.

This changing world is constantly transforming people's lives and livelihoods. Technological advancements have accelerated the rate of change, leaving no choice but to adapt to a changing world. Technological advancements are accelerating at an unprecedented rate in the history of the world. At this stage of the Fourth Industrial Revolution, the development of artificial intelligence has brought about unprecedented changes in the way people work and live, where the interrelationships between machines and humans are becoming ever more intimate. As a result, much of the current world of work will no longer exist in the future, and many new—now unimaginable—employment opportunities will arise. As the distance between countries and societies shrinks as a result of globalization, rapid urbanisation, and domestic and international migration are radically altering traditional rural societies. Despite persistent economic growth across the world, its distribution has not been balanced, and social development has failed to keep up with the pace of growth. As a result, basic problems like hunger, poverty, and illiteracy are still there; issues related to climate change, air pollution, migration, or ethnic violence have intensified; and pandemics like COVID-19 are occurring, paralysing lives, livelihoods, and economies around the world. As a result, we have to face new challenges and dimensions in our daily lives.

In order to deal with these problems and possibilities, find sustainable and effective solutions, and take full advantage of the possibilities, we need visionary, sensitive, resilient, humane, and competent world citizens with knowledge, skills, and a positive vision. The traditional education system is struggling to produce such citizens in line with the information and technological changes of the 21st century. This is due to the fact that the traditional

memorization and examination-oriented education system was established 300 years ago to meet the needs of the society's lives and livelihoods then, and there have been few qualitative changes since then. Today, we need an education system that is flexible, capable of adapting to a rapidly changing environment, and relevant to emerging socio-economic needs. This requires a sustainable solution to ongoing problems and the confidence and effort to face new challenges. In this broad global socio-economic context, Bangladesh has continued its efforts to transition from a least-developed country to a developing one and to achieve the goal of becoming a developed country by 2041. Education is a powerful tool for accomplishing this mission. Therefore, modernising education is the only way forward, which must begin with developing an effective and time-befitting curriculum.

Curriculum development and review is a regular but very important activity of the National Curriculum and Textbook Board (NCTB). As the latest curriculum revision was done long ago, in 2012, it needed to be revised again to keep pace with the changing world. For this purpose, various research and technical exercises were conducted between 2017 and 2019 to analyse the current situation of education and assess the learners' needs. Based on these efforts, the initiative to develop a continuous curriculum from pre-primary to grade 12 has been taken with the aim of building a new generation capable of adapting to the contexts, needs, and challenges of the new world.

1.2
Foundations of curriculum development

The five foundations on which the new curriculum has been developed are:

- Philosophical foundation
- Psychological foundation
- Historic foundation
- Global and national priorities
- Evidence-based foundation

Philosophical foundation

It is very important for the curriculum to have a philosophical foundation as the goals and objectives of the curriculum are mainly determined by its philosophical foundation. The goals and processes of the new curriculum have been set on the basis of established philosophical theories. Today, many traditional educational philosophies (for example, perennialism, essentialism, and so on) have lost their relevance. Among the various theories, special emphasis has been given in this curriculum to "progressivism" . In "progressivism", the main objective of the curriculum is to help the learners form their own interests and points of view on daily life affairs and problems. According to this approach, the learning process must be interdisciplinary, integrative, and interactive. Two recent and important theories in pedagogy are “constructivism” and “reconstructivism”. According to “constructivism”, the main objective of learning is to gain experience for adaptation to the surrounding environment. Lastly, according to “reconstructivism”, the learner constantly interacts with and adapts to the social learning environment, and this results in changes in both the learner and the learning environment. It is this experience of change that forms the basis of learning. In the curriculum framework, “progressivism” and “reconstructivism” form the core philosophical foundations, laying down its structure and strategy, and the objectives of other approaches have also been transformed in the light of progressivism and reconstructivism.

Psychological foundation

The psychological foundation of the curriculum provides guidance on what type of teaching-learning process should be used. This foundation is created by analysing the concepts of different types of learning theories. Behavioural psychologists believe that learning is a continuous, predetermined process, and through this process, students' learning has to be ensured by following a step-by-step teaching-learning process in a controlled environment. On the other hand, cognitive developmental psychologists believe that learning depends on the learner’s focus on the data analysis process and the practice of the thinking process. Therefore, according to this theory, the learning process lies in the problem-solving practice of different subjects, which is achieved by practising thinking in an intuitive, creative, and reflective way. On the other hand, holistic psychologists (Gestalt Theory) believe that learning depends on analysing the problem holistically and finding a way to solve it. In this process, it is very important to analyse the elements of the environment around the problem and their impacts. Therefore, according to the Gestalt Theory, learning only occurs when there is a harmonious relationship between the curriculum and society, and culture. Based on this holistic theory, a new psychological approach called "social constructivism" emerged, which encourages creating a conducive environment for problem-solving by considering the characteristics of the learner and adopting the mechanism of finding creative solutions to problems through interaction. Another theory, known as Bronfenbrenner’s ecological systems, has been introduced. In

the current context, the application of digital technology has led to the emergence of a new learning concept, known as connectivism, based on individual freedom in human learning (ensuring multidimensional flexibility in learning time, content, learning space, purpose, and learning process according to the learner's aptitude and motivation) and interconnection between learners (Siemens, 2004). In this curriculum framework, social constructivism and the theories based on it are considered to be the main psychological foundation, along with Howard Gardner's multiple intelligences theory (Gardner, 1983), which is based on social constructivism and claims that human intelligence is multidimensional and that a person can be adept in one or more dimensions of intelligence. This framework also ensures the limited and rational use of other theories when required.

Historic foundation

The Hunter Commission, led by Sir William Wilson Hunter, was established as the first education commission in the subcontinent in 1882. In its report in 1883, the Hunter Commission first proposed two streams of education, namely, Course A (Literature) and Course B (technical education). This introduced a unified system for general education in British Colonial India, and it remained in force until 1959. According to the report of the Maulana Akram Khan Education Committee, formed in 1949, the United Front government wanted to introduce a universal, scientific, and unified education system (Islam, S., 2012). The Ataur Rahman Education Commission was formed in 1957. In its report, the commission also proposed a unified education system. After coming to power in 1958, military ruler Ayub Khan formed the Sharif Khan Education Commission and instituted in 1959 a system of general education at the secondary level with three streams, namely science, humanities, and business education, from the ninth grade (Department of Education, Government of Pakistan, 1959). That system is still in use today. However, after the independence of Bangladesh, the Qudrat-i-Khuda Education Commission was formed and inaugurated on September 24, 1972, by the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman, the greatest Bengali personality in the nation's history of a thousand years. In his inaugural address, Bangabandhu said that he wanted an educational framework that would enable the nation to build a society based on equality. In line with his directives, the commission recommended in 1974 a universal, scientific, and unified general education system (Government of the People's Republic of Bangladesh, 1974). This curriculum framework has been developed keeping in mind this historical context and direction.

Sustainable Development Goal 4 (SDG 4): ***Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all***

Targets:

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and nonviolence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.

Global and national context and priorities

This changing world is constantly transforming people's lives and livelihoods. With the problems and possibilities that the world is facing today, finding sustainable and effective solutions and taking full advantage of those possibilities requires visionary, sensitive, adaptable, humane, and competent global citizens with knowledge, skills, and vision. Now we need a creative and innovative education system that is capable of adapting to a flexible and rapidly changing environment and is relevant to emerging socio-economic demands. Bangladesh dreams of building a developed society through the modernization of the education system, which is reflected in its various national and international commitments. The National Constitution of Bangladesh and the National Education Policy 2010 reflect the desire to provide universal access to quality education for all citizens. The education goal of the Sustainable Development Goals also pledges "to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." The same promise is reflected in the election manifesto of the present government and the Eighth Five-Year Plan. Also, in line with the government's Vision 2021, 2041, 2071, and 2100 (Delta Plan), the development of a time-befitting curriculum framework is essential for the modernization of the education system. If Bangladesh is to reap the demographic dividend of its vast population, it must transform them into highly skilled and knowledgeable human resources. That is why modernising education is the only way forward. And the beginning of this modernization must be through the development of an effective, up-to-date curriculum that will serve as a foundation for the entire education system.

Global Citizenship

Global citizenship is the expression of a holistic approach through which the learner is motivated to build a peaceful, tolerant, inclusive, safe, and sustainable world. Global citizenship is emphasised in the curriculum so that the learners become aware of local, national, and international issues, get informed of the interconnectedness and interdependence of different countries and peoples, and acquire a mentality to embrace difference and diversity by adopting mutual empathy, solidarity, and respect.

Evidence-based foundation

The data obtained from various international and national studies showcase a trend of introducing competency-based curriculum. This analysis has been considered the evidence-based foundation of the curriculum framework.

According to the analysis of the Learning Framework 2030 of the Organisation for Economic Cooperation and Development (OECD) (2018) in the international context, future learners of the world need to have some commonly shared goals for the well-being of individuals,

communities, societies, states, and the planet. At the same time, the acquisition of knowledge, skills, and attitudes to solve global problems and adapt to the uncertainties of the changing environment must be ensured. To ensure all this, there is no alternative to a competency-based curriculum.

According to the OECD (2018) report, the concept of competency should not be limited to acquiring traditional knowledge-skills-attitudes, rather competencies need to be transformative. By acquiring transformative competencies, learners will be able to play a meaningful role in creating new values and solving problems through creative, responsible, and conscious interventions. The Brookings Report (2016) on Skills for a Changing World analyses education policies and guidelines of 102 countries and explores the skills that different countries recommend for their future citizens to acquire besides competencies. This study shows in most countries a growing trend of moving away from traditional curricula as they initiate a process of curriculum transformation, towards developing one that is based on competencies and, more precisely, on future skills. Analysing the policies and guidelines of 102 countries, the study finds that 76 countries specifically defined skills-based competencies, while 36 countries incorporated skills-based competencies in their vision and mission of policy guidelines. Moreover, of those 102 countries, the curriculum of 51 countries directly set the skill-based competencies and 11 countries specified the skill-based competencies in subjects and other documents and methods. These findings also show that the world is gradually moving towards a skill-based, that is, a competency-based education system.

Bangladesh last revised its curriculum in 2012. An evaluation of the current curriculum and research findings show that the curriculum development involved separate stage-based initiatives, resulting in different curricula for pre-primary, primary, secondary, and higher secondary levels. In view of this, a new initiative has been taken to develop a continuous curriculum from pre-primary to twelfth grade, which aims to imbue learners with desirable values and enable them to face new realities and survive in competitive world conditions by acquiring competencies and upholding identity.

Notable recommendations of the situation analysis of pre-primary and primary stages and the assessment of learning needs and efficiency analysis of the current curriculum (NCTB, 2019) were:

- A balanced reflection of knowledge, skills and attitudes in subjectwise competencies should be ensured.
- A reflection of the crosscutting aspects should be ensured in the subject curriculum.
- Ensuring the implementation of a competency-based curriculum requires skilled teachers who are capable of conducting learner-centric teaching and logical assessment.
- Subject-wise time allocations need to be balanced.
- The curriculum should reflect relevant contemporary subjects (e.g., digital technology) and competencies in light of changing scenarios.
- Social constructivism based learner-centred teaching-learning and assessment processes should ensure equity.
- The curriculum should be formulated and implemented on the basis of research findings.

Similarly, notable recommendations in the light of the situation analysis of secondary education stage and assessment of learning needs (NCTB, 2019) are as follows:

- It is important to design and implement a competency-based curriculum at the secondary level to make it consistent with the primary level curricula. Other curricula from across the world should also be considered.
- The curriculum needs to be reviewed/renewed to put more emphasis on psychomotor and affective domains.
- Inclusion of pre-vocational and vocational subjects is required.
- The goals, objectives, achievable competencies, and learning outcomes of the curriculum need to be structured in such a way that the Sustainable Development Goals (SDGs), the goals of the present government's Election Manifesto 2018, and Vision 2041 can be achieved.
- Important subjects like science, sustainable development, and human rights need to be better integrated while reviewing/renewing the curriculum.
- Learning needs to be more activity and experience based.

Based on the analysis of the findings and recommendations of a research conducted in global and Bangladesh contexts, the current review and development of the curriculum in Bangladesh has created the following possibilities of qualitative change:

- Making the curriculum modern and up-to-date by revising it in an integrative way at all levels from pre-primary to Grade 12. For the first time, there are also possibilities of harmonising the different levels of the curriculum and acquiring appropriate knowledge, skills and attitudes according to the levels of transferable competencies to achieve specific goals.
- Research findings and rational processes offer the potential to reduce the additional pressure on learners, parents/guardians, and the education system. In this case, making the teaching-learning process interdisciplinary, integrative, interactive, and experiential offers the potential to reduce the burden of content in the curriculum.
- In the context of global changes and the national goal to be a developed country, we have an opportunity to design a competency-based curriculum in a single framework with the view of developing children aged between 4 and 18 years in an integrated, precise and well-organised manner.

1.3
Curriculum revision and development process

NCTB followed all the necessary stages widely followed to conduct curriculum review and development.

Stage 1: Research, situation analysis and needs analysis

At the initial stage, extensive research was conducted to assess the effectiveness of the existing curriculum and its implementation. Four extensive studies were conducted between 2017 and 2019 to assess the effectiveness of existing curricula in primary, secondary, and madrasah education. Additionally, among others, technical workshops, and issue-based discussions were conducted to analyse the current state of education and assess the learning needs. In these studies, government goals, plans, national and international commitments, national and international research, curricula of different countries, and relevant reports and documents were reviewed and analysed. The findings and recommendations of all these studies and technical exercises were beneficial for the next stages.

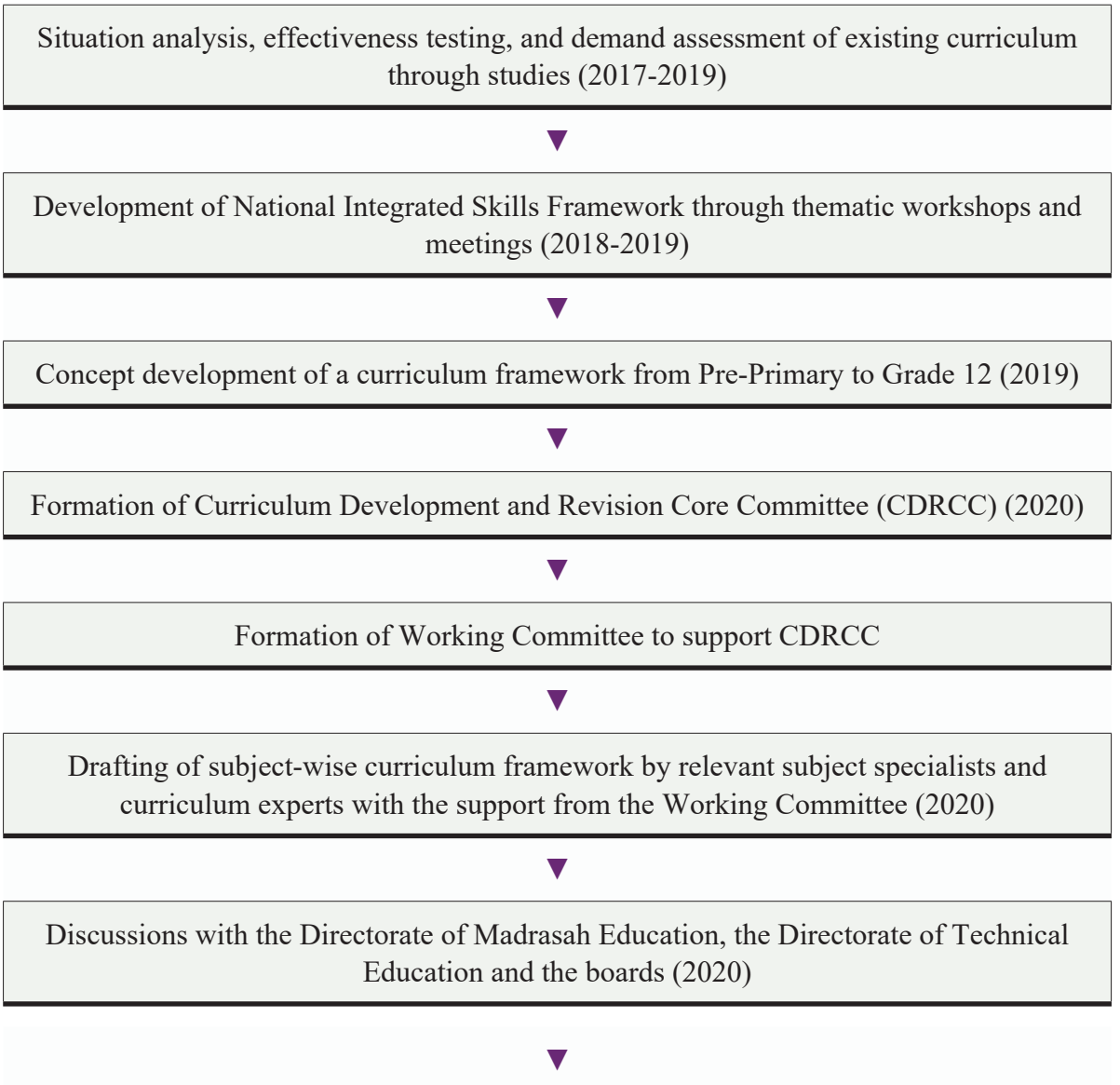
Stage 2: Designing curriculum framework

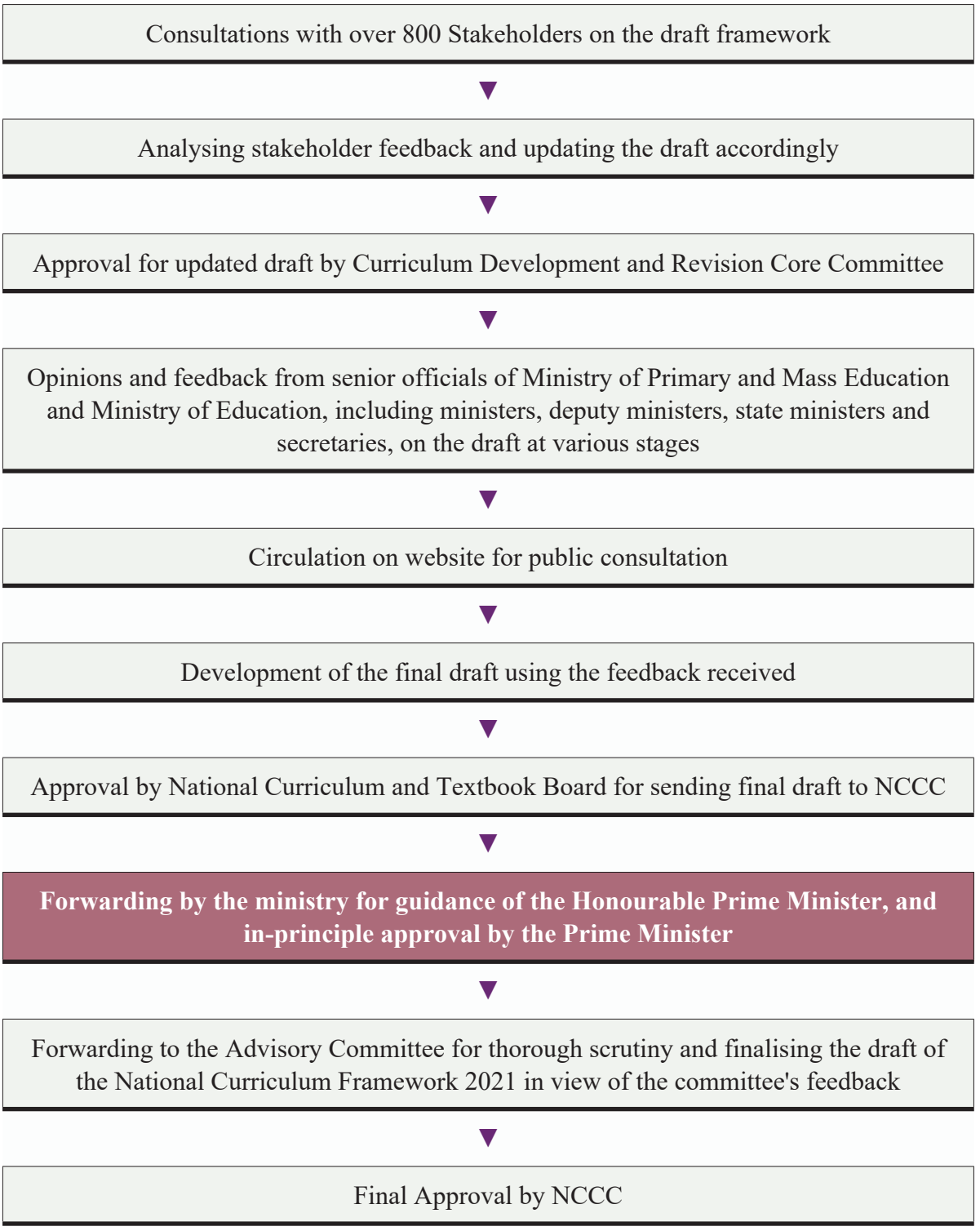
The basic structure, composition, and nature of the existing pre-primary, primary, and secondary curricula are different. The above studies emphasised the importance of adopting a single curriculum for different types and levels of education. Therefore, it was recommended that a single, national curriculum should be designed which took into account the contemporary concept of competency-based education. To this and, NCTB planned for a National Curriculum Framework.

With the approval of the Ministry of Education, the National Curriculum and Textbook Board (NCTB) constituted the Curriculum Development and Revision Core Committee (CDRCC), consisting of eminent educationists, subject specialists, curriculum experts and senior officials of the Ministry of Education, Ministry of Primary and Mass Education and related departments, for proper and smooth development of the national curriculum. Later, on the advice of CDRCC, a Working Committee was formed, comprising curriculum experts, education experts, NCTB officials, and subject specialists, to provide the necessary support to CDRCC, including carrying out technical and systematic tasks in developing the National Curriculum Framework.

The Working Committee came up with an idea on the National Curriculum Framework through a series of workshops and meetings. In a meeting held in the presence of the Minister and Deputy Minister of Education, State Minister for Primary and Mass Education along with Secretaries and senior officials of the two ministries, instructions were given to formulate a comprehensive National Curriculum Framework based on the idea for the purpose of developing a seamless curriculum from Pre-Primary to Grade 12.

Accordingly, the Working Committee under the supervision of CDRCC initiated the process of drafting the document through conducting workshops and technical meetings with subject specialists, curriculum experts, class teachers and learning experts. Under the direct guidance of honourable ministers of the Ministry of Primary and Mass Education and the Ministry of Education, and in consultation with policymakers, the first draft of the curriculum framework was prepared by the CDRCC and the Working Committee after conducting more than 15 workshops and 30 virtual meetings, in which 156 experts from 33 organisations participated.





Subsequently, under the direct guidance of experts from the National Curriculum and Textbook Board, more than 800 stakeholders were consulted on the draft curriculum framework through 13 teams. The stakeholders include policy makers (honourable ministers, honourable Members of Parliament, secretaries, and senior officials); reputable educators; education related entrepreneurs (private entrepreneurs); education specialists (sciences, mathematics social sciences, languages, special education, business studies, integrated

education); curriculum experts; gender experts; education administrators; teacher trainers (NAEM, NAPE, HSTTI, PTI, TTC, TTTC, BMTTI); parents/guardians (primary, secondary, vocational); teachers (primary, secondary, science, humanities, business studies, education); learners (primary, secondary, science, humanities, business studies, education); university teachers (science, humanities, business studies, technical, medical, engineering, agriculture, environment, social sciences); professionals (technologists, doctors, engineers, journalists, businessmen, scientists, economists, agronomists, environmentalists, development workers); employers (industries, PSC, NGOs, entrepreneurs, human resources specialists, different sectors—ICT, agriculture, garments, media, creative media); madrasah (learners, parents/guardians, teachers, specialists); technical (learners, parents/guardians, teachers, specialists); and members of the University Grants Commission. The draft curriculum framework was later revised after carrying out a proper analysis and review of the specific feedback obtained through consultations with the stakeholders.

The draft National Curriculum Framework was presented in the CDRCC meeting held on January 13, 2020, and was approved by the committee for future courses of action. As per the recommendations of CDRCC, the draft framework was made available on the website of the National Curriculum and Textbook Board for public comments. Recommendations received from individuals and institutions thus enriched the draft framework.

As per decision 01 of the 684th NCTB emergency board meeting held on December 27, 2020, the draft framework was sent to the National Curriculum Coordination Committee (NCCC) of the relevant ministry for final approval.

Due to the importance of the National Curriculum Framework, the Honourable Education Minister sought the kind guidance of the Honourable Prime Minister on this document. A summary of the document was sent to the Prime Minister's Office.

On September 13, 2021, a presentation on the National Curriculum Framework was made to the Honorable Prime Minister through a virtual meeting. The Honourable Prime Minister gave her key directions and expressed satisfaction with the National Curriculum Framework presented. Through this meeting, the National Curriculum Framework received the in-principle approval of the Honorable Prime Minister.

On October 12, 2021, the National Curriculum Framework was presented before the Advisory Committee on National Curriculum Framework in its meeting, which gave its approval for further activities along with some recommendations.

At this stage, based on the guidance of the Honorable Prime Minister, and recommendations of the Advisory Committee, the National Curriculum and Textbook Board finalised the National Curriculum Framework 2021.

In light of the approved curriculum framework, the next step will be to develop and revise grade-wise and subject-wise curricula by constituting committees with relevant experts following due process. After rationalising, finalising, and approving the revised curriculum, subject specialists will start working on designing teaching-learning activities and materials based on the finalised curriculum and following certain procedures.

2.1
Vision

‘Patriotic, productive, adaptable, happy and global citizen, inspired by the spirit of the Liberation War.’

The vision has been set to create an honest, moral, value-oriented, scientific-minded, confident, efficient, creative, and happy generation inspired by the spirit of the liberation war, who will uphold national history, tradition, and culture. This vision envisages a generation that will be devoted to the welfare of others. They will also strive for amicable treatment and peaceful coexistence with all irrespective of their religion, caste, and creed; without losing their own identity. By acquiring creativity and transferable skills, they, as productive citizens, will be able to contribute to building a developed and prosperous Bangladesh. Also, they will be able to develop themselves as adaptive and competent global citizens by embracing the multidimensionality of their identity in the context of globalisation.

2.2
Mission

Achieving this vision requires reflection of certain strategic features in the overall management of the education sector. Having an effective plan and implementing it properly can ensure the realisation of the vision. The mission for making this vision a reality is articulated below:

- To formulate an effective and flexible curriculum for unlocking and developing the latent potentials of all learners;
- To make educational institutions into social hubs for learner development and excellence;
- To create opportunities for and to recognise multidimensional learning outside the institutional learning environment;
- To ensure a sensitive, accountable, integrated, and participatory education system;
- To employ responsible, self-motivated, skilled, and professional human resources at all levels of the education system.

2.3
The approach of the curriculum

Children in Bangladesh start their formal education by getting enrolled in pre-primary grade. From this stage, learners prepare for formal education, then complete primary and secondary education, and participate in higher education or enter the world of works. To meet the global challenges of the 21st-century, learners need to be qualified and skilled, and enabled to ensure sustainable development. Initiatives have been taken to develop a competency-based curriculum from pre-primary to secondary level focusing on the competencies that enable learners to meet these challenges. In order to ensure proper development and implementation of the competency-based curriculum, it is important to conceptualise competency-based education in the Bangladeshi context.

In order to ensure that the knowledge and understanding of the definitions, features, mechanisms, and importance of competency-based education are reflected in curriculum design and implementation, competency-based education has been conceptualised based on the global definition and the national context.

Some of the related concepts in the competency-based education are defined as follows:

Learning environment	Where the learning experience and pathways are chosen by the students themselves, allowing them to constantly empower themselves through using and demonstrating those competencies on their own
Learning support	Wherein the students can develop their competencies through efficient learning experiences while promptly receiving individual or comprehensive support in accordance with their particular learning needs
Learning participation	Where learners can learn in a variety of ways and at varying paces through active participation
Learning progression	Where the learner's progress is measured based on their performance record, rather than the time utilised for learning or form of participation
Learning assessment	Where the learner's assessment is based on a productive and meaningful learning experience recorded through appropriate learning-related activities and the associated performance indicators

Learning equity	Where the issue of promoting equity among learners is firmly established within the educational system, the curriculum and its implementation and assessment
Learning expectations	Transparent, specific, measurable, and transferable

The experience that the learner goes through in the competency-based education...

- The learner gets the necessary learning environment and support to achieve desired competencies and the opportunity to use those acquired competencies to solve real problems.
- The learner gets a safe and personal learning environment that provides the best opportunity to face challenges.
- Everyone's culture and opinion are valued, so the learner feels more committed to learning.
- The learner gets the opportunity and support to acquire such competencies that allows him/her to take responsibility for their own learning.
- The learner gets the opportunity to acquire competencies in a coordinated manner.
- The learner has the freedom to learn or demonstrate proficiency whenever and wherever they want, and they can set their own priorities.
- The learner gets timely guidance, support, and feedback on their progress.
- The learner gets psychosocial support that helps them shape their personal path of learning.
- The learner's learning assessment is done based on their learning competencies and performances, and its purpose is to inform the learner where and how they should work to achieve learning competencies.
- The learner can progress to the next level of learning by demonstrating proficiency.

Conditions for the implementation of competency-based education are:

- Coordination of changes and implementation so that expected outcomes are achieved, as education systems, structures, curricula, teaching-learning mechanisms, and assessments are interconnected.
- Changes in the education system are driven by equity, where all learners can learn in and out of classroom settings through full participation, required support, and learning experience.
- Ensuring that all learners can learn according to the specific learning expectations, and if

- they are hindered, they can acquire learning competencies on their own with confidence.
- Creating such innovative and effective learning environments as per the learning needs so that learners can learn on their own in various ways, processes, and times.
- Ensuring a learning ecosystem/environment where learners have opportunities to apply their acquired learning competencies in a variety of contexts.
- Ensuring that learning can take place anywhere at any time. Ensuring collaborative and socially structured learning.

Learning expectations should be transparent, precise, and measurable to ensure an improved learning culture and accountability.

2.4
Competency-based education

2.4.1 The spirit of the Liberation War as the inspiration for determining desired competencies of the learner

The spirit is an important element of emotional and social intelligence. It motivates one to make well-thought-out decisions and to act accordingly integrating personal values, emotions, attitudes, tendencies, qualities, traits, and so on in a specific context, time and situation. In that light, the spirit of the Liberation War of Bangladesh has been considered as an important component for determining all the ideas of the curriculum framework. The major foundations of the national curriculum are the spirit mentioned in the Proclamation of Independence during the Liberation War and the four state principles of the constitution of independent Bangladesh.

This curriculum embodies the spirit of the Liberation War and its basic foundations as follows:

Human dignity: Human dignity is the respect and self-dignity for every human being, which remains intact irrespective of space, time, and situation. Human dignity is the foundation of human rights, to which the highest respect is the indispensable responsibility of the individual, society, or state, and it cannot be suspended in any way. Ensuring minimum respect and dignity for every human being is a commitment derived from the spirit of the Liberation War.

Social justice: Social justice is ensuring social coexistence while maintaining human dignity on the basis of justice in light of human rights, constitution, law, religion and culture.

Establishing social justice for all irrespective of class, religion, caste, creed, gender, social, political, and socio-economic status is one of the commitments of the Liberation War.

Equity: Equity is to create and maintain equal opportunities for all by taking the contexts into account in a fair and respectful manner by respecting and embracing differences, diversity, and class division.

The Constitution of Bangladesh describes the four basic principles of state policy–nationalism, socialism, democracy, and secularism–as follows;[1]

> *8. 1[(1) The principles of nationalism, socialism, democracy and secularism, together with the principles derived from those as set out in this Part, shall constitute the fundamental principles of state policy.]*
>
> ***Nationalism***
>
> *[9. The unity and solidarity of the Bangalee nation, which, deriving its identity from its language and culture, attained sovereign and independent Bangladesh through a united and determined struggle in the National Liberation War, shall be the basis of Bangalee nationalism.]*
>
> ***Socialism and freedom from exploitation***
>
> *[10. A socialist economic system shall be established with a view to ensuring the attainment of a just and egalitarian society, free from the exploitation of man by man.]*
>
> ***Democracy and human rights***
>
> *[11. The Republic shall be a democracy in which fundamental human rights and freedoms and respect for the dignity and worth of the human person shall be guaranteed 12[* * *] 13[, and in which effective participation by the people through their elected representatives in administration at all levels shall be ensured].*
>
> ***Secularism and freedom of religion***
>
> *[12. The principle of secularism shall be realised by the elimination of*
>
> *(a) communalism in all its forms;*
>
> *(b) the granting by the State of political status in favour of any religion;*
>
> *(c) the abuse of religion for political purposes;*
>
> *(d) any discrimination against, or persecution of, persons practising a particular religion.]*

In order to develop patriotic and good citizens, it is necessary to transform them into productive people inspired by the spirit of the Liberation War and the four fundamental principles of the state. At the same time, they need to prepare themselves to be adaptive global citizens upholding their identity. It is also necessary to groom them with the spirit of the Liberation War. The spirit of the Liberation War has been laid out in various elements of competency in the curriculum framework.

1 Source: http://bdlaws.minlaw.gov.bd/act-957.html, accessed on May 09, 2022

2.4.2 Concept of competency

Most countries in the world today are following competency-based curricula with the aim of building a civil society capable of meeting the challenges of the 21st century. In Bangladesh, the curriculum framework has also been developed around the concept of competency. In general, learners' competencies develop when a combination of knowledge, skills, values, and attitudes is acquired. For example, no one can drive a car by his/her knowledge and skills only; he/she also needs to have values and attitudes. Although the competency-based curriculum has become popular in many parts of the world, no specific or single theory or definition of 'competency' has been developed, which can accommodate all conventional concepts in a single framework (Winterton et al., 2005). As the context impacts the conceptualisation of competency, it has been defined differently in competency-based curricula of different countries. Again, in education, training, or professional settings, different concepts of competency have been used (Kennedy D & Hyland A, 2009). Even the terminology is quite diverse because some academics or researchers have used the term "ability" to mean "competency", while others have used terms like "skills" or "capacity", "capability", "performance standard" and more. In some cases, a narrow definition of competency has been adopted, where competency and skills are almost synonymous (Adam 2004, Brown and Knight 1995). On the other hand, the ECTS (European Credit Transfer System) Users' Guide 2009 defines competency as the proven ability to apply knowledge, skills, and personal, social, and methodological capabilities for personal and professional development needs in education or the workplace. The ability to use cognitive, emotive, and psychomotor skills properly is indicative of competency in the nursing profession (Miller et al 1988). Competency in the professional sphere is a pattern of knowledge, attitude, and behaviour that together enable one to perform a task (Neary, 2002). Competency includes not only knowledge and skills but also values, critical thinking, professional judgment, attitudes and qualities, and integration of various social and scientific theories.

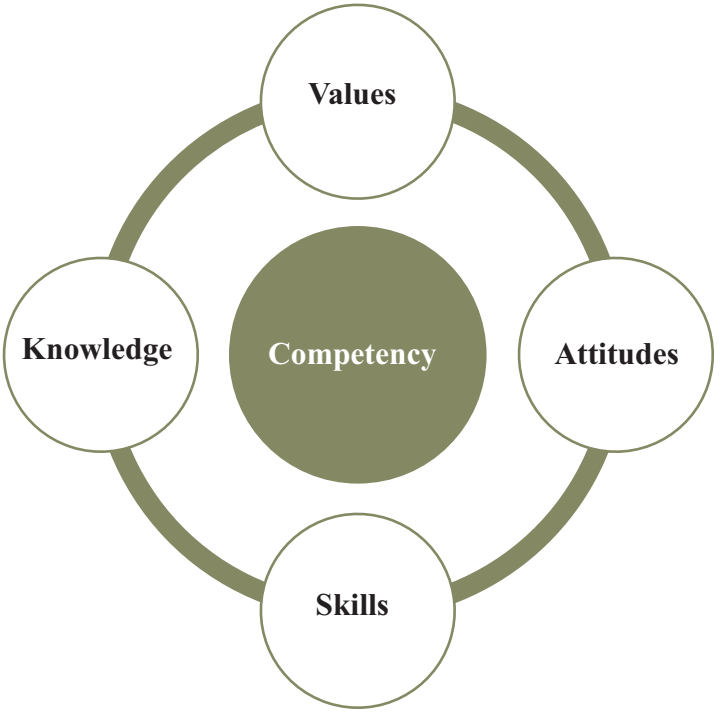
Similarly, the concept of competency varies in different countries. According to the Higher Education and Training Awards Council of Ireland (HETAC), competency is the ability to demonstrate and apply knowledge and skills creatively and effectively in different social situations. The council also believes that the ability of the learners to identify their own weaknesses and learn new things accordingly is part of their competency. In its definition of competency, the Tuning Educational Structures in Europe project in 2000 mentioned competency as a combination of knowledge, understanding, skills, and capabilities. Again, in England, competency is considered a criterion for performance and fulfilment of professional role in the field of technical education, while in the United States of America, competency refers to skills, knowledge, and personal characteristics, such as trends, attitudes, self-concepts, and so on (Van der Klink and Boon, 2002). In the Australian curriculum, competency is referred to as 'capability'. This curriculum considers that competency is comprised of knowledge, skills, behaviours, and dispositions. When learners apply knowledge and skills effectively and

accurately with confidence in complex and changing situations in various areas of life in and out of schools, they achieve competency. In Germany, competency is regarded as the ability to rearrange the cognitive field, which is acquired through learning required for the contextual needs of adapting to a specific situation or accomplishing a specific task. Estonia, on the other hand, adopts in its curriculum the general concept of competency–knowledge, skills, attitudes or qualities, and values–and its culture in accordance with its own context (Estonia, 2014).

Despite different conceptualisations, a general concept of competency has gradually emerged, that is, if a learner can perform in a particular context using a combination of required knowledge, skills, and attitudes or qualities, values, morality, and so on, then they can be considered as competent in that context (Kennedy D & Hyland A, 2009). The most important concept in developing a competency-based curriculum is to consider one's own context because it can be very difficult to develop any competencies unless learners are connected to their own contexts (Klieme E. et al. 2008).

It is clear from analysis that some elements of the concepts of competency are universal, such as knowledge, skills, values, and so on, while some elements are added as per the national contexts of different countries. In this regard, in the context of Bangladesh, competency has been defined as a combination of four elements. These are: Values, attitudes, skills, and knowledge.

The concept of competency adopted in this curriculum takes its inspiration from perceiving and understanding the spirit of the Liberation War of Bangladesh and establishes close interrelationships among the four elements: knowledge, skills, values, and attitudes.



It should be noted here that the interrelationships among the stated elements are not linear but multidimensional[2].

Definition of competency:

Based on the above analysis, competency is the ability to adapt to changing contexts based on a combination of knowledge, skills, values, and attitudes, and are driven by the spirit of the Liberation War.

In light of this concept of competency, its components are also defined below, to foster better understanding, enabling those components to be reflected in the core competencies, curricula, teaching-learning activities, learning materials, and assessment strategies.

2.4.2.1 Desired values of the learner

Values are a type of guiding principles or beliefs that influence and play an important role in determining decisions, solutions, or priorities. Values are formed through long-term practices of personal, familial, social, cultural, religious, national, and global experiences and beliefs. Values are also closely associated with the development of knowledge, skills, and attitudes, and they are mutually interdependent. Values can be clustered into many types, such as personal, social, religious, humane, and so on.

The practice, pursuance, and development of values in education is becoming increasingly important in the national and global contexts. Since values can impact all sorts of future steps, the creation, practice, and pursuance of positive values emanating from one's own country and culture will be encouraged through this curriculum—which will contribute to achieving the curriculum's vision. To uphold the spirit of the Liberation War, its related values must be practised. The sources of these values are the Liberation War of Bangladesh, national identity and history, culture, religious beliefs and practices, present and future contexts, and global values. In light of this, the practices of the values which have been considered in the development of this curriculum are:

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2 There is a widely circulated theory (The theory of planned behaviour– Icek Ajzen, 1991) in education and human development on how human knowledge, skills, and attitudes are transformed into capability or competency, and how these elements are manifested in behaviour by establishing interrelationships.

The knowledge acquired and its application experience, irrespective of human demographic traits (for example, age, and gender), give rise to three types of characteristics:

1. Creates attitudes to behave in a specific way about making the right decision.
2. Develops self-efficacy belief in one's ability to do things or solve problems.
3. Develops normative beliefs and values in them on the basis of analysis of state, social, institutional, familial, and group norms.

If it is possible to establish an interrelationship between these three elements through knowledge and application experience, then a collective belief is formed among people to practise the right behaviour according to the situation, and the ability to apply it properly is also observed.

- **Solidarity**: The mindset of being united. Despite having differences, diversity and class differences, working together to achieve a greater goal in terms of collective aspirations, goals and objectives, and humanistic values, leaving individual desires and priorities behind.
- **Patriotism**: Patriotism is keeping oneself engaged in the welfare of the country by being loyal to it in every step and showing the greatest love and respect for the country.
- **Harmony**: Harmony is the display of and sustaining the highest level of unity, combining existing strengths, despite differences, diversity and class difference.
- **Tolerance**: Tolerance is the display of the highest level of tolerance towards the freedom to accept or reject dissent or different opinion through the application of critical thinking skills. Tolerance is showing respect and endurance towards the freedom of expression of the members of different classes, professions and religions and the opinions of others.
- **Respect**: Respect is the expression of mutual positive feelings based on characteristics, uniqueness and qualities. Mutual respect and esteem are very important for sustainable and dignified coexistence.
- **Empathy:** Respond others by sincerely, understanding and respecting their state of mind and feelings.
- **Integrity**: Integrity means taking morally correct decisions and actions in all circumstances by being responsible to the self, without any personal or institutional oversight.

Consciousness and values are abstract feelings, perceptions, or ideas. An indication of whether these have been followed and practised is to observe and comprehend what qualities or traits have been acquired in human beings. In this context, achieving the human qualities that are expected of learners from pre-primary to Grade 12 at the end of their education can be a reflection of the practice of consciousness and values.

Qualities	Description
Honesty	A moral quality that motivates one to practice truthfulness and justice
Enthusiasm	Long-lasting physical and mental capability
Democracy	Tolerant, aware, and respectful of one's right to expression
Non-communalism	Respect for the beliefs, culture, and traditions of all communities, including one's own
Initiative	Being interested in performing a task or solving a problem and remaining motivated until the end
Positivity	Taking decisions and steps considering the noble aspects of any work, word, event, or issue
Aesthetics	Having a thoughtful attitude to practicing creative works while realising their beauty

Humanity	Making efforts to love, care for, preserve, and provide security to human beings and the creation
Responsibility	Performing all duties and responsibilities in a timely, serious, and appropriate manner

2.4.2.2 Desired attitudes of the learner

In this curriculum framework, attitude is defined as the tendency or ability acquired through learning to evaluate something consciously or unconsciously or to act on or respond in a particular way to an idea, person, or situation. Attitudes are underpinned by values and beliefs and have an influence on one's behaviour.[3]

This curriculum framework lays special emphasis on three aspects of attitudes:

- Personal beliefs
- Beliefs related to positive social norms
- Self-confidence

2.4.2.3 Desired skills of the learner

Skill is a type of ability or capability, which can be achieved through deliberate, systematic, and sustained efforts with spontaneous or adaptive activities. Skills can vary depending on activity types, goals, or methods. For example, if it is an idea-oriented activity, it is a cognitive skill; if it is centred on an object, it is a practical or technical skill; and if it is about humankind or a society, it is a social, psychosocial, or emotional skill.

Skills are conceptualised based on the context in which they are being defined. For example, skills in the curriculum are a part of the comprehensive concept of competencies. On the other hand, the acquisition of knowledge, skills, values, and qualities or attitudes are interdependent. For example, cognitive skills are needed to acquire knowledge, while psychosocial and emotional skills are needed to internalise values. Similarly, acquiring knowledge and internalising values are essential for acquiring practical skills or emotional skills.

All kinds of skills can be broadly divided into three categories:

1. **Foundational skills:** The skills that are essential for acquiring other skills, such as literacy, numeracy, digital literacy, and so on.
2. **Transferable skills:** The skills that can be adapted to context and time and that help us to survive over time, such as critical thinking, creative thinking, problem-solving, and so on.
3. **Livelihood related skills:** The skills that make people proficient in any task. Such as occupational or trade-based competencies.

3 http://www.ibe.unesco.org/en/glossary-curriculum-terminology/a/attitude

It should be noted here that the skills of the clusters cannot be clearly distinguished. Just as there is close interdependence between the clusters, so too do the skills of one cluster enter into another.

Although the concept of skills in education is old, new concepts and definitions have been introduced over time to meet the needs of the new age. Especially in competency- based education, it is necessary to define skills and clarify the means of skills acquisition as one of the components of competency. In this regard, the four pillars of education, specified by the Delors Commission (1996), have helped to define and categorise the skills. According to the recommendations of the Delors Commission, the skills are categorised as follows:

Pillars of education according to the recommended by the Delors Commission	Cluster of skills
Learning to know	Skills for learning
Learning to do	Skills for livelihood
Learning to be	Skills for self-empowerment
Learning to live together	Skills for citizenship

Also, the OECD Future of Education and Skills 2030 report defines skills under three clusters.

1. **Cognitive and meta cognitive skills**
2. **Social and emotional skills**
3. **Physical and practical skills**

The National Curriculum and Textbook Board has designed an integrated skills framework by analysing through a series of technical exercises involving stakeholders the changing national and global contexts, the Sustainable Development Goals and commitments, and the challenges and prospects of the 21st century. The unique feature of this framework is that it is based completely on Bangladesh's own context, as the forward-looking framework focuses on the challenges and obstacles that the young generation of Bangladesh is facing today and may face in the future.

Reflecting the aforementioned international conceptualisations and following the skills framework formulated in Bangladesh, the skills are clustered as follows in the National Curriculum Framework.

Skills for learning to learn	Critical thinking Creative Thinking Problem solving
Skills for personal empowerment	Self-management (self-awareness and analysis, emotional intelligence, social intelligence, self-efficacy) Decision making Communication
Practical and social skills	Life and livelihood Cooperation Global citizenship
Foundational skills	Literacy and numeracy, change literacy Digital literacy (information, technology, media)

To ensure the aforementioned skills are properly reflected in the learning continua, competencies, teaching-learning mechanisms, and assessment mechanisms, a summary is given here.

- **Critical thinking skills**

  The ability to use a particular type of methodical thinking process that involves searching, analysing, and using information and data to understand abstract and theoretical matters or to solve real-life problems is called critical thinking skills. Even though most of the time people do not consciously realise, they follow a series of orderly steps of thinking during the critical thinking process to find a solution or reach a conclusion. While working on any complex issues, learners proficient in such skills integrate different critical skills from an inquisitive frame of mind; such as thinking about the thinking mechanism as per the type of the issue, asking investigative questions, analysing, adding, and determining rationality, and so on. This enables taking effective steps while dealing with complex issues.

- **Creative thinking skills**

  Creative thinking skill is the ability to create and implement new ideas based on one's own opinion that is beyond conventional thinking. Learners who are proficient in such skills think from a new perspective instead of conventional ones while working on a topic. On one hand, it generates new techniques and means, and on the other hand, new paths and possibilities emerge. In a changing world, such skills help individuals and society to move forward.

- **Problem solving skills**

  Problem-solving skilla ares the abilities to identify problems and methodically arrive at effective solutions. The skill is honed by practising a systematic process of problem-solving. This skill is enhanced by identifying the causes of the problem and analysing them, making specific decisions based on available solutions, and implementing them.

- **Decision-making skills**

  Decision-making skills are logically selecting one solution from several ones which are yielded from an understanding of the situation based on available information. Many people make decisions without logical thinking. Those who are proficient in decision-making identify the issues precisely and analyse them from different perspectives and then consider the possibilities and risks to make decisions from probable options available.

- **Communication skills**

  Communication skills are the ability to effectively exchange ideas, and receive and express information, opinions and feelings using linguistic and non-linguistic (verbal and written messages, expressions, signs and so on) means. In this regard, the combined use of skills in active listening, presentation style, and interest in exchanging messages enhances communication skills.

- **Self-management skills**

  In order to build a prosperous life and a better society, a person needs to ensure their own well-being by acquiring the ability to self-care effectively or to guide oneself positively through self-management, in addition to having different skills. This requires a combination of special skills, such as skills of self-awareness and self-analysis, emotional intelligence, social intelligence, self-control, control over social and cultural influences, effective use of interpersonal relationships, daily life skills and, above all, time management skills.

- **Collaboration skills**

  Cooperation is important for accomplishing any task and achieving excellence, for which it is necessary to develop like-mindedness and team spirit. These skills include minimising differences by valuing diversity, defining areas and activities of cooperation, and expanding the scope of cooperation through effective communication.

- **Global citizenship skills**

  Global citizenship is a concept that helps people define their place in the world through an understanding of national and global contexts. Individuals with global citizenship skills, motivated by a sense of nationalism, play an active role in their own space, society, culture and state, and establish a communication network that contributes to the creation of a world without discrimination and the establishment of human rights, democracy and social justice. A generation with global citizenship skills plays an active role in the social, political, economic and environmental development of their country and the world. Global citizenship inspires change in people's knowledge, skills, and attitudes to build a peaceful, tolerant, inclusive, safe and sustainable world. The Education for Sustainable Development (ESD) strategy should be followed to create a generation with

global citizenship skills.

- **Employability skills**

  Employability skills are the skills required to prepare for the world of work and to be able to adapt to changing circumstances and contexts. In addition to technical knowledge and skills, the ability to work independently, financial literacy and management skills, business communication and entrepreneurial skills, professional experience, safety and job search skills increase employability in future skill-specific professions. Efforts to improve these skills lead to success in the workplace as well as opportunities to engage in new employment.

- **Foundational skills – literacy, numeracy**

  Foundational skills are the skills required to make sense of the surrounding environment using the five senses in order to speak, write, express, measure, calculate and explore the world through various media. Other foundational skills also needed to keep pace with the rapidly changing world include scientific literacy, technology and digital literacy.

- **Digital skills**

  Digital skills are essential for enjoying the prospects for livelihood in today's technology-driven society. Information and media literacy are important components of digital skills, but their scope is wider. This set of skills has been given special importance in order to make the learners innovators of the 21st century rather than just consumers of technology. Digital skills include the ability to understand how different digital technologies work, effectively use them to solve real problems, and the skills required to plan, design and implement new digital solutions as needed. Digital skills are also required to assess the effectiveness of various digital technologies and to make appropriate, creative and responsible use of the right technologies for different needs.

2.4.2.4 Desired knowledge of the learner

Knowledge can be defined as established facts, ideas or theories about something. Knowledge can either be theoretical concepts or based on empirical perceptions of how to accomplish activities skilfully. Knowledge can be defined differently according to the context. In accordance with the definitions and the categories used in OECD countries, this curriculum framework has classified knowledge into four categories.

1. Disciplinary knowledge: Disciplinary concepts and content
2. Interdisciplinary knowledge: Interconnecting the concepts and content of one discipline with that of another
3. Epistemic knowledge: Understanding the works and thoughts of discipline-based specialists
4. Procedural knowledge: Knowledge of how to perform a task step by step

2.5
Basic principles

Some basic principles have been laid out in the country's context with the aim of making the vision of the curriculum framework a reality. These principles will serve as the guidelines for the curriculum development and implementation:

- Enriched in the spirit of the Liberation War
- Unified and inclusive
- Non-discriminatory
- Multidimensional
- Competency-based
- Active and experiential learning
- Relevant and flexible
- Related to life and livelihood
- Participatory
- Learner-centric and joyful

2.6
Core competencies

The ten core competencies that learners are expected to acquire through the competency-based curriculum from pre-primary to Grade 12 are:

1. Ability to express one's views and opinions properly and creatively according to the context, respecting and understanding the opinions and propositions of others.
2. Ability to take logical and the most beneficial decisions for all after considering various aspects of an issue holistically through critical thinking.

3. Ability to achieve the qualities of a global citizen by showing love and loyalty to one's own country and upholding own traditions, culture, history and heritage while respecting differences and diversity.
4. Ability to take logical and the most beneficial decisions for all and solve problems with the participation of all through problem projection, quick realisation, analysis, synthesis and consideration of future significance.
5. Ability to adapt to the changing world through peaceful coexistence while maintaining cooperation, respect and harmony and to play a role in creating a safer habitable world for future generations.
6. Ability to artistically present and contribute to national and global welfare by creating new ways, strategies and possibilities adapting new attitudes, ideas, and perspectives.
7. Ability to create and maintain risk-free, safe and acceptable personal, familial, social, state and global relationships and communications by knowing one's own position and role in managing one's own physical and mental health.
8. Ability to deal with disasters by facing risks and opportunities while keeping human dignity intact and preparing oneself for safe and secure life and livelihood in a constantly changing world.
9. Ability to solve everyday problems in a changing world using mathematical, scientific and technological skills.
10. Ability to engage oneself in the welfare of nature and humanity through religious discipline, honesty and moral virtues and the practice of integrity.

The four essential elements of competency, as defined in the context of Bangladesh, are knowledge, skills, attitudes, and values. These four elements are combined to form the aforementioned 10 core competencies. Guidance is provided on both the learning process and specific subjects in order to ensure the acquisition of all the competencies. No subject can be completely studied in isolation because it is intertwined with all other subjects. This insight inspired the creation of the framework, which places a strong emphasis on an interdisciplinary approach to education.

2.7
Learning areas

Ten learning areas have been identified to acquire the ten core competencies of the curriculum. The learning areas have been determined based on areas of learners' development, pre-determined principles, values, core competencies and skills, results of situation analysis, and the importance of learning topics based on national reviews. During this identification process, not only local and global needs and contexts have been considered, but also academic priorities and the current and future perspectives of higher education and the world of work.

The learning areas identified in the curriculum to acquire the competencies are:

1. Language and Communication,
2. Mathematics and Reasoning,
3. Science and Technology,
4. Digital Technology,
5. Environment and Climate,
6. Social and Global Citizenship,
7. Life and Livelihood,
8. Religion, Values and Ethics,
9. Physical-Mental Health and Well-being,
10. Arts and Culture

2.8
Learning area wise competencies

Learning area-wise competency statements have been prepared using the ten learning areas identified in this curriculum and by considering each learning area and its needs and scope:

Learning area	Learning area-wise competency statement
1. Language and Communication	To be able to receive ideas and express oneself, and to appreciate literature by acquiring the basic skills of listening, speaking, reading and writing in more than one language; to be able to express oneself creatively and artistically using different media; and to be able to communicate effectively and beneficently in personal, familial, social, state and global contexts with tolerance.
2. Mathematics and Reasoning	To be able to acquire and use basic skills in number and operation, computation, geometric measurement and data to quickly assess ever-changing personal, social, national and global problems; and to be able to communicate effectively by using appropriate mediums knowing their significance and consequences, and what is to be done. Also, to be able to find logical and beneficial solutions and take decisions by applying mathematical skills; and to be able to demonstrate innovative abilities.
3. Science and Technology	To be able to quickly evaluate and solve personal, social, and global challenges in the light of explanations of physical sciences, biological sciences, geology, environmental science, technology-related phenomena, events, the wheel of events, and so on, using scientific knowledge, ideas, attitudes, and methods. To be able to predict future outcomes, significance, and tasks to be completed, as well as to make creative, logical, and beneficial decisions and put them into action us-ing appropriate means, demonstrating innovative skills.
4. Digital Technology	To be able to communicate effectively, solve problems and contribute to innovation through the safe, ethical, appropriate, moderate, responsible and creative use of information and communication technology through data search, analysis, verification and management; innovating, developing and disseminating innovative digital solutions to real problems for sustainable development by acquiring the capabilities of digital tech-nology; and to be able to prepare oneself as a digital citizen in the con-text of the present and future world.
5. Social and Global Citizenship	To be able to respect difference and diversity by upholding and nurturing one's own culture, history, heritage and the spirit of the Liberation War. To consider one's own views and opinions and those of others in accordance with the contexts in a view to maintaining cooperation and harmony, and to play a role in building a safer and habitable world.

Learning area	Learning area-wise competency statement
6. Life and Livelihood	To be able to achieve necessary and sustainable pre-work competencies to meet the needs of the evolving local and global job market and adapt to future skills. To be able to acquire daily work skills through developing positive attitudes towards work, and to apply them in one's own life showing productivity. To be able to make oneself suitable for the creative world of work and capable of earning a liveli-hood through acquiring professional skills and work experience; and to be able to deal with the risks of the world of work and contribute to creating a safe, secure career for oneself and others.
7. Environment and Climate	To behave responsibly towards nature and wildlife in the light of the concepts of environmental elements, environmental pollution and its remedies, and environmental conservation. To be able to contribute to building a safer habitable world through acquiring knowledge about the concepts of climate, causes of climate change and disasters, their impacts on individuals, environment and social economy, and adapting to evolving circumstances by adhering to various strategies.
8. Religion, Values and Ethics	To show respect and tolerance for one's own and other's religions and faiths; to acquire knowledge about the importance of values such as honesty, fairness, cooperation, empathy, individual freedom, respect for diversity, integrity, cultural values, sense of humanity, love for the human being, nature and the planet, and so on, and to make one-self competent to work towards the goal of creating a safe and non-sectarian world through practising those values.
9. Physical-Mental Health and Wellbeing	To be able to contribute as a productive citizen by being able to lead a healthy, safe and secure life through proper physical and mental health care by knowing the physical and mental characteristics, chang-es and their effects and risks. To contribute as an active citizen by adapting to changes through positive communication and respecting one's own position, identity, background and opinions and those of others.
10. Arts and Culture	To learn about the concepts of various creative streams of arts (arts and crafts, dance, music, musical instruments, recitation, acting, literature, and so on) and culture, and to be able to appreciate them; to develop latent talents inspired by practice; To develop sensitivity and aesthetics and to show respect for other cultures by retaining and nurturing one's own culture and traditions and find motivation to be work-oriented and self-reliant by embracing art.

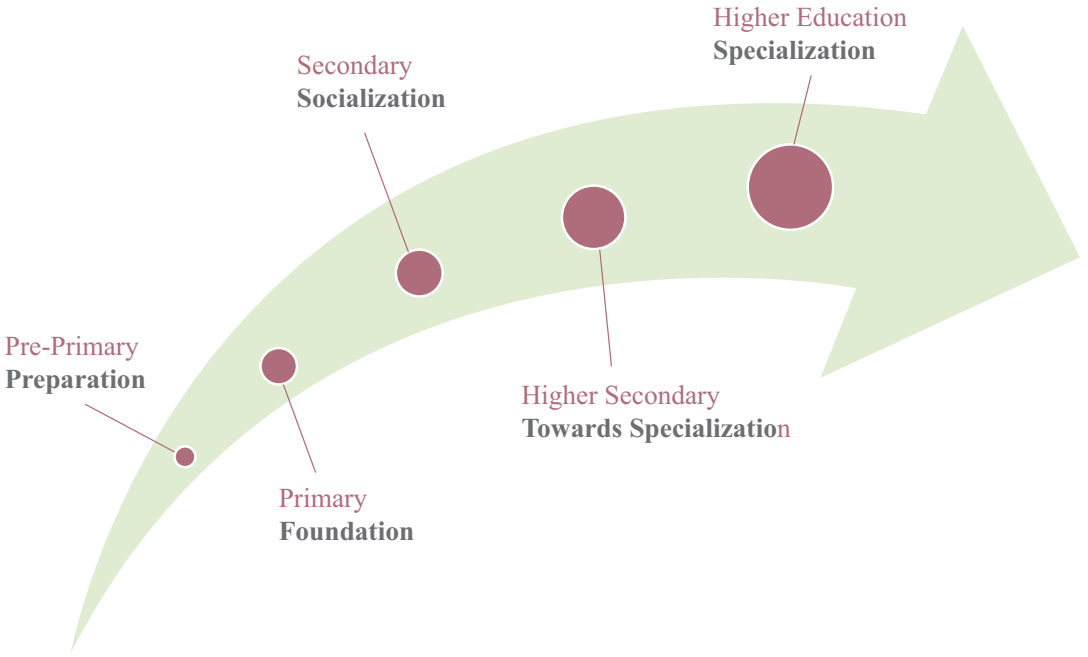
2.9

Objectives of different stages and levels of education

Each level of education has some universal and specific purposes to achieve the main goals and objectives of education. The universal objectives include the physical, mental, emotional, intellectual, linguistic, aesthetic and overall development of the learner—which is important at all levels of education. However, in pre-childhood, childhood, adolescence and post-adolescence periods, learners' development and learning needs vary according to their age, interests, maturity, and the type and characteristics of interactions. Therefore, the main purpose of a particular stage of education is considered to focus on the specific needs of each learner according to their stage of development. In addition to this, social, economic, state and international contexts are also taken into consideration in determining the objectives of a particular level, which leads to the achievement of the main goals of education. For example, the main purpose of the pre-primary stage is to prepare a child for their adaptation from a familiar home setting to the formal setting of school, the preparatory activities of which are done focusing on the concept of the child's overall development. But, at the primary level, emphasis is placed on acquiring basic or foundational skills such as learning to read, write and count, which the child can use to acquire various competence and continue self-learning at the next level. At the secondary level, learners will continue to acquire knowledge and skills on the one hand by strengthening such basic skills, and on the other hand, they will also acquire various social skills and attitudes by giving more importance to the process of socialisation which will help them to become active gradually in the wider spaces of society. In upper secondary and beyond, the learner will take professional preparation by acquiring knowledge and skills in specialised areas.

The level-based objectives, which have been determined in the curriculum based on the types and needs of the learner's personal development and the national and international contexts, are presented in the figure below.

It is important to note here that, although more emphasis is placed on specific objectives at each level, these level-based objectives will be achieved not only at the respective levels, but will be embedded at all levels from pre-primary to higher education.



2.10
Levelwise selected subjects

A certain number of subjects have been prescribed at each level from pre-primary to Grade 12 in a view to acquiring competency for the ten prescribed learning areas. Since the pre-primary stage is a preparatory stage for children's subsequent learning, at this stage, children will practice learning multiple subjects together in an integrated way instead of learning separately on a particular subject. However, at the primary (from Grade 1 to Grade 5) and secondary (from Grade 6 to Grade 10) levels, eight and ten subjects have been specified respectively. Continuous planning from pre-primary to Grade 12 has made it possible to adjust the format of subjects at pre-primary, primary and secondary levels, and special attention has been paid to ensure that the learners' step-by-step passage is smooth and stress-free. Many issues have been taken into consideration while selecting these subjects for different stages. For example, the number and type of subjects are adjusted according to the age, interest, and developmental needs of learners at different levels. A theme-based and interdisciplinary approach has been

adopted to enable learners to acquire the core competencies set out in the curriculum and the competencies of the learning areas in its continuity, but at the same time not to increase the content pressure. Emphasis has been placed on experience-based learning to make learning effective and enjoyable, through which it is possible to acquire competencies in multiple subjects through the same learning activities.

The table below presents the distribution of subjects from pre-primary to Grade 10. Although in many cases the relationship of a particular subject with a particular field of learning is clearly noticeable, in fact, all subjects will play a role in acquiring competencies in all the areas of learning as the relationship between the learning area and the subject is not one-directional.

2.10.1 Selected subjects at the pre-primary stage and the primary level

Learning area	Pre-primary	Primary
Language and Communication	Integrated subject	✓ Bangla ✓ English ✓ Mathematics ✓ Science ✓ History and Social Sciences ✓ Wellbeing ✓ Religion Studies ✓ Arts and Culture
Mathematics and Reasoning		
Life and Livelihood		
Social and Global Citizenship		
Environment and Climate		
Science and Technology		
Digital Technology		
Physical and Mental Health and Wellbeing		
Religion, Values and Ethics		
Arts and Culture		

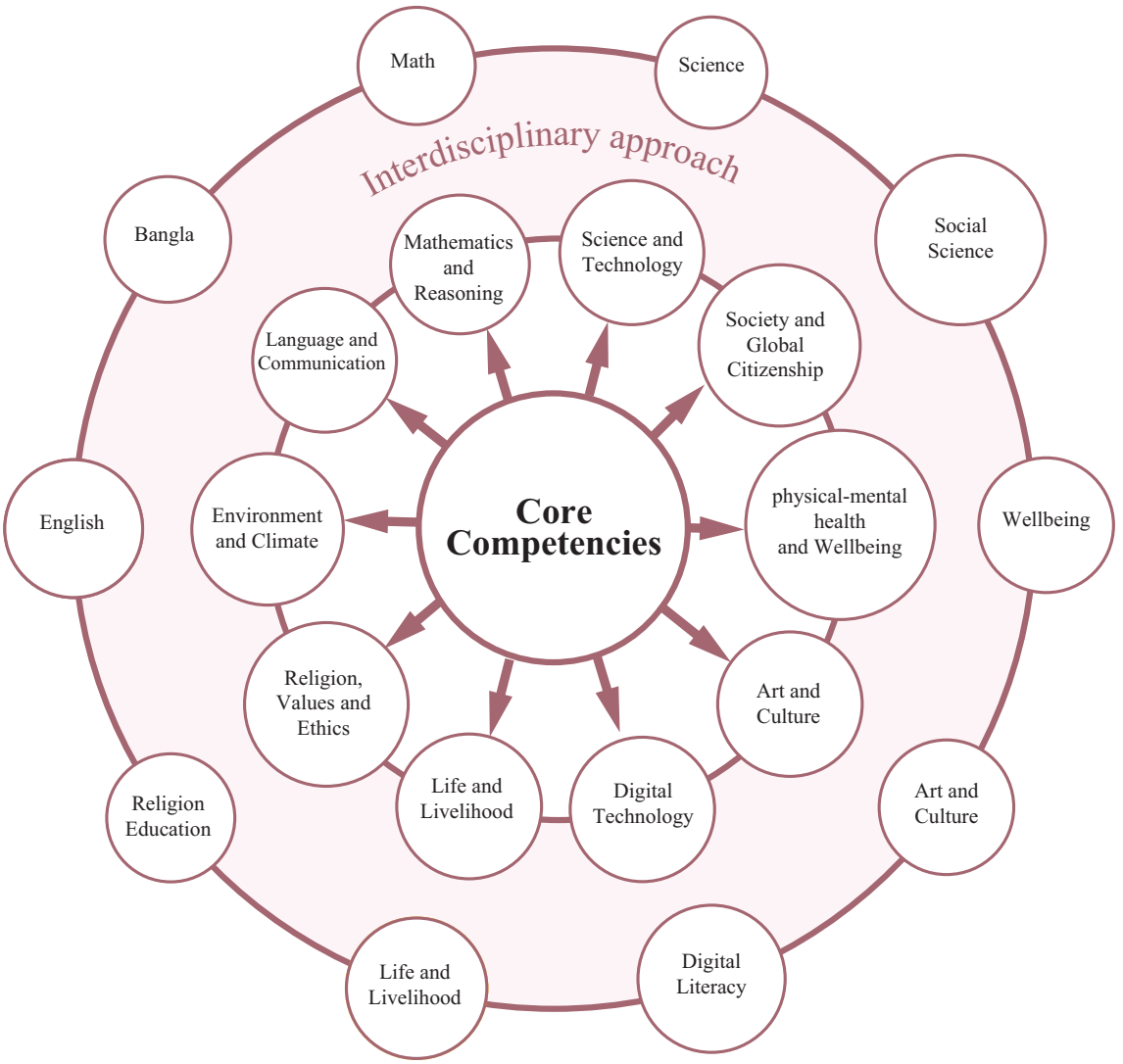
Note: Although Digital Technology and Life and Livelihood are not separate subjects at the primary stage, the learning competencies in the two subjects, as described in the learning continua for the primary stage, will be acquired in combination with other subjects.

2.10.2 Selected subjects at the secondary level (from Grade 6–10)

Learning area	Secondary (Grade 6-10)
Language and Communication	✓ Bangla ✓ English ✓ Mathematics ✓ Science ✓ History and Social Sciences ✓ Digital Technology ✓ Life and Livelihood ✓ Wellbeing ✓ Religion Studies ✓ Arts and Culture
Mathematics and Reasoning	
Life and Livelihood	
Social and Global Citizenship	
Environment and Climate	
Science and Technology	
Digital Technology	
Physical and Mental Health and Wellbeing	
Religion, Values and Ethics	
Arts and Culture	

2.10.3 Considerations for selection of subjects from learning areas

In recent times, this strategy or approach has been adopted in the curriculum of different countries given the positive results of the thematic and interdisciplinary approach. Keeping in mind, and taking into account the context of Bangladesh, this framework has included the main subjects as well as theme-based subjects at the secondary level. As a result of adopting a policy of flexibility in the curriculum, there is an opportunity to tailor this subject format to the needs and requirements of the future as well. Apart from the theme-based subjects, some other subjects have also been tailored to integrate multiple areas of discussion, for example, History and Social Sciences is considered a core subject, where history, economics, politics, and geography have been integrated. Similarly, learning competencies in the areas of physical sciences, biology, and geology have been integrated into the subject of science. Language education includes not only basic skills like listening, speaking, reading, and writing but also alternative communication skills.



Since the learning areas are the same for all learners from pre-primary to Grade 10, relative emphasis has been given on different fields at different levels with the objective of ensuring the learners can acquire the required competencies in all the fields. For example, since foundational skills have been given more emphasis in the pre-primary and primary levels, mother language, communication and mathematical skills have been given priority. Similarly, science, history and social sciences and English are emphasised at the secondary (Grade 6 to Grade 10) level so that all the learners at this level can acquire the necessary scientific knowledge, skills and attitudes, and become global citizens with nationalistic consciousness by acquiring competencies in various fields of social sciences.

In Grade 11 and Grade 12, three-fourths of the total weightage will be allocated for specialised subjects and one-fourth weight for compulsory subjects, and these subjects will have a combination of competencies of different learning areas. In these integrated subjects, almost all learning areas can have different levels of reflection.

2.11

Subject and subject conceptualisation

Ten learning areas have been identified to formulate appropriate plans for achieving the 10 core competencies mentioned in the curriculum framework. In order to understand exactly what kind of competencies the learner needs to acquire through these 10 learning areas, the descriptions of learning area-wise competencies have been prepared. In the light of these learning area-wise competency statements, the subjects at the pre-primary, primary and secondary levels have been determined.

In order to achieve the 10 core competencies, the competencies in the relevant learning areas and above all the subject-wise competencies, each subject has been conceptualised considering various aspects, including the nature and scope of each subject. The aspects that have been taken into consideration while formulating subject conceptualisation from learning areas are:

- The type of learning area and the skills required to acquire the core competencies have been given emphasis.
- The horizontal growth of the subject has been taken into consideration according to the level and dimension of the subject.
- The basic/necessary learning theories and information have been included so that the main contents of the relevant subjects are reflected.
- The scope of a subject has been determined considering the nature of the subject.
- The context of the subject has been taken into consideration, and at the same time, the local and global contexts have also been considered.
- The current context of the curriculum and future expectations in the changing world have been reflected.

It should be noted that though this framework defines the subjects for pre-primary to Grade 10, the subjects for Grades 11 and 12 have not been defined. Since the main goal of Grades 11-12 is to prepare for specialisation, more emphasis will be laid on specialised subjects at this stage, which will prepare the learner for higher education and the world of work. The compulsory subjects will be designed in such a way that they reflect multiple learning areas. In order to develop the learner suitably for the world of work, they will also be given the opportunity to choose a practical or optional subject.

Subject: Bangla

Background

Bangla language will be used for learning other subjects and at the same time learning other subjects will strengthen the learner's foundation of the Bangla language.

Competency statement

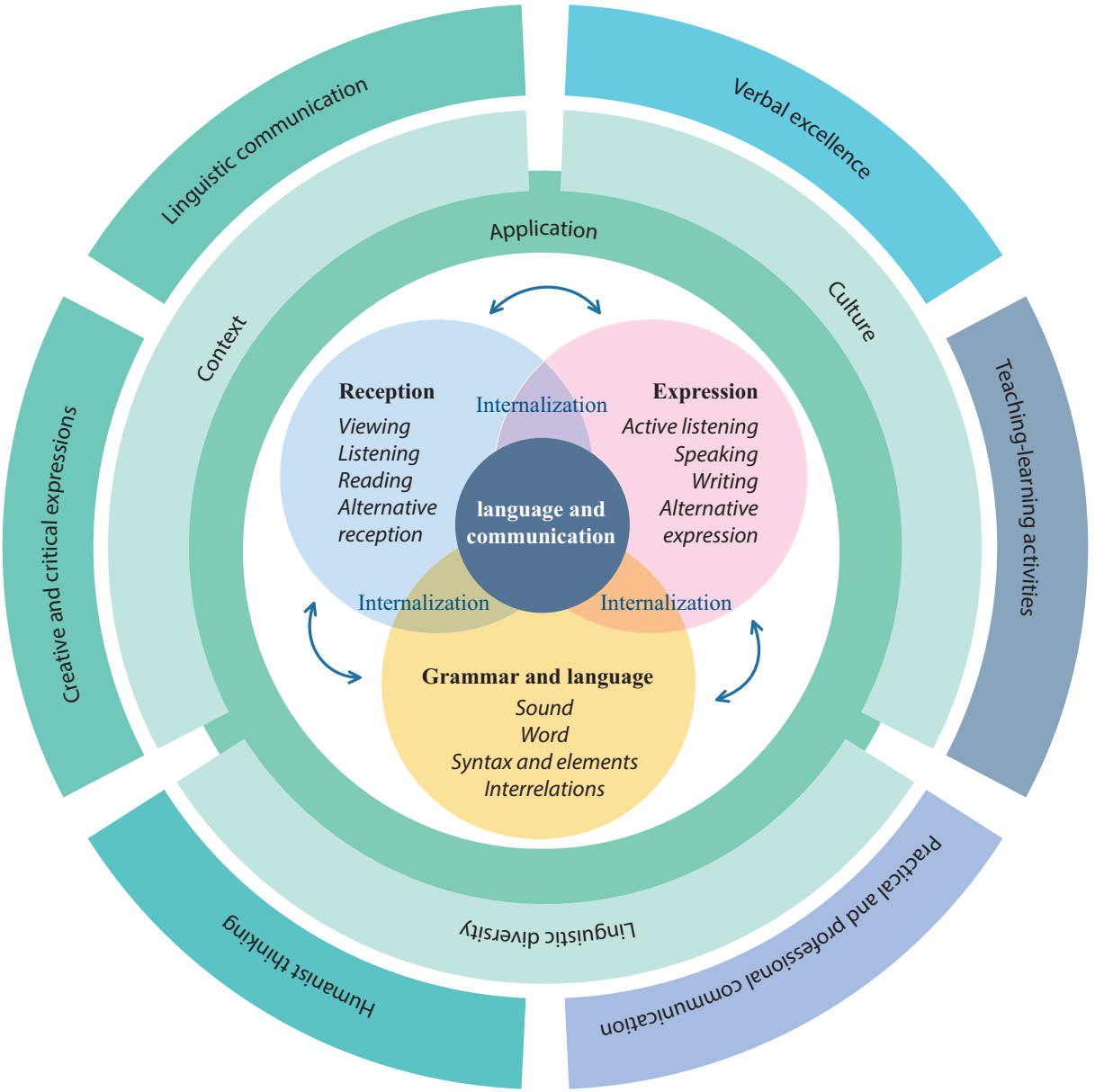
To be able to communicate effectively using basic skills of the standardised Bangla language (listening, speaking, reading, writing, looking and feeling); to be able to explore knowledge in different learning areas using basic skills of the Bangla language. To be able to enjoy reading literature; to be able to express oneself creatively and aesthetically in various media upholding Bangla language and culture and to be able to communicate effectively and beneficially with tolerance at the individual, familial, social, national, and global contexts.

Conceptualisation

Language is a medium of communication and at the same time the vehicle of knowledge and thought processing. From the pedagogical perspective, language is the main foundation of the learning process and teaching-learning activities. In the National Curriculum Framework 2021, Bangla has been adopted as the main language and medium of communication, and also as a medium of learning other subjects. In this process, the learner will become proficient in communication according to the environment, situation and context. In the framework, observation and perception have been emphasised alongside receiving and expressing ideas through listening, speaking, reading and writing for acquiring language and communication skills.

The framework gives special emphasis on the learner's comprehension and use of language. Language comprehension mainly develops based on interrelationships of sensory perception, social and cultural contexts, and language organisation or grammar. Appropriate, accurate and sophisticated use of language depends on the strong base of language comprehension. On the one hand, language is receptive, and on the other, it is expressive. Receptive proficiency is acquired through observation, listening, perceiving, reading, and so on, while expressive proficiency is developed through speaking, writing, gestures, touches, active listening and so on. Alternative receptions and alternative expressions have also been given special importance in this curriculum framework because the learners represent diversity in terms of intelligence and emotional intelligence. The learners experience and understand the real world in a variety of ways through perceptions, touches, smells, observations, and so on; therefore, they also express themselves through various media and processes.

As a language and medium of communication, six major application domains have been determined for the Bangla language:



1. Linguistic communication;
2. Verbal excellence;
3. Teaching-learning activities;
4. Practical and professional communication;
5. Humane thinking;
6. Creative and thoughtful expression.

Linguistic communication refers to the communication and announcement of various verbal and non-verbal processes. The gradual improvement of the speaking skills of a learner has been characterised as verbal excellence. Applied and professional communication means proper use of the Bangla language in practical and professional life; Bangla as a subject will develop the necessary skills to use the Bangla language in various fields and professional life. Another important application domain of the Bangla language will be teaching-learning

activities;

Bangla language is the main medium of acquiring all subject-specific knowledge. Therefore, enhancement of the learner's Bangla language skills will improve their knowledge acquisition skills in other subjects, and teaching-learning activities will become easier and more comprehensible. In the current curriculum, the Bangla language is considered the language of application and enhancement of the learner's humane thinking skills. This framework views thinking as humane, rational, tolerant and positive. It emphasises different linguistic styles, such as descriptive, informative, analytical and so on, to improve thinking skills. Creative and thoughtful expression means the creative and rational activities of the learner; this expression could be written, verbal, graphic, creative and informative. As a whole, the Bangla subject will be the main language medium for communication, information, teaching-learning activities, thinking and expression.

Subject: English

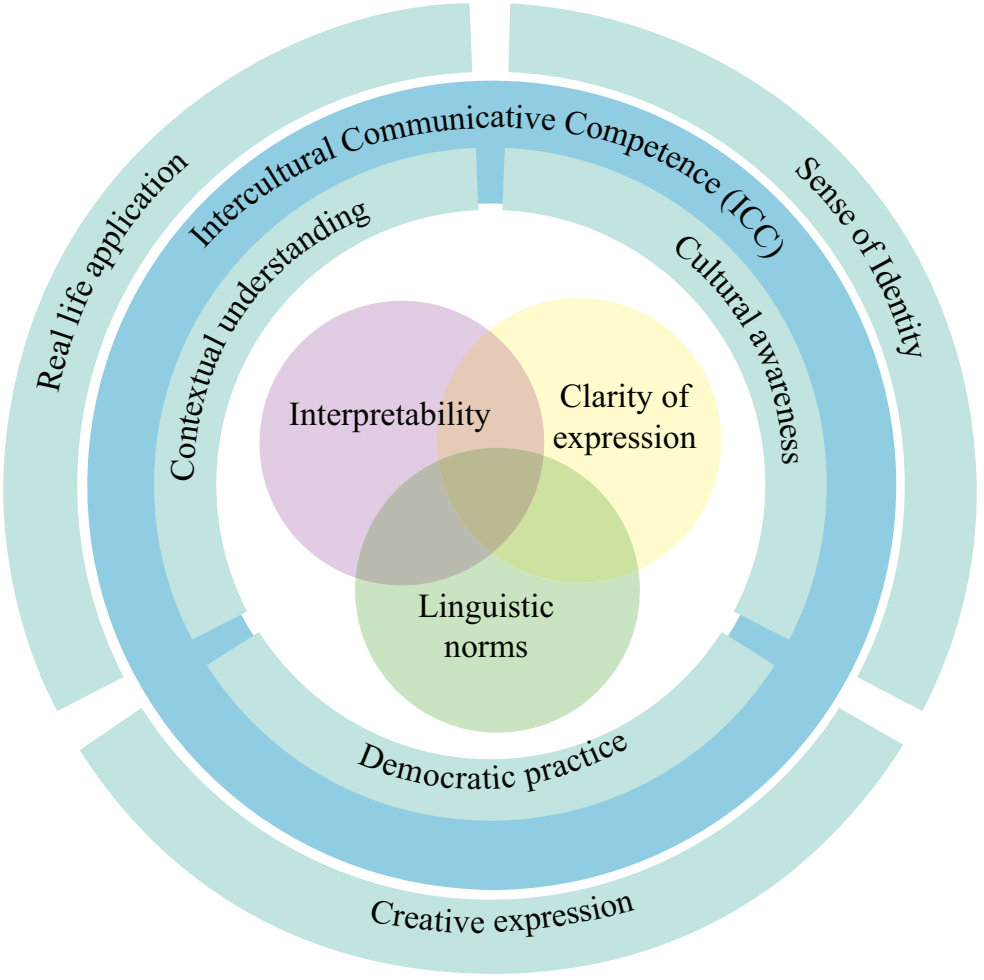
Competency statement

To be able to communicate effectively using basic skills of the English language for day-to-day purposes, academic purposes and other specific purposes; to be able to exert creative as well as critical insights to express aesthetically, and to appreciate English literary text; to be able to uphold democratic practice in communication at the individual, social, national and global contexts.

Conceptualisation

Since English is viewed as a foreign language in Bangladesh, the K-12 curriculum of English needs to maintain a balance of focus between real-life applications and a good understanding of the contexts in which the language learners are going to use English.

This diagram illustrates how English as a subject is conceptualised in this curriculum framework. The centre of the diagram contains the core knowledge and skills required for a



learner. In terms of knowledge, it covers **linguistics rules** along with their relevant use for the local and global contexts. One key skill, **interpretability**, taps learners' ability to interpret and understand the literal as well as intended meaning of a given verbal or non-verbal text. Another skill is **clarity of expression**, which demands the learners' ability to express clearly, concisely, distinctively, and appropriately in effective communication. However, effective communication does not rely only on any particular knowledge and sets of skills, rather it requires **contextual understanding** and **cultural awareness** along with a **democratic attitude**. These three aforesaid components form a mediating lens which leads to the idea of **Intercultural Communicative Competence (ICC).**

A context-sensitive cultural awareness in communication denotes an empathetic attitude and ensures admiration and appreciation for diverse practices in communication. Consequently, a democratic attitude on part of the language users becomes mandatory as it facilitates a mindset to acknowledge different opinions in communication and the varied ways of expression, as well as the readiness to articulate personal viewpoints.

In terms of English teaching-learning, as a second or foreign language, the prevalent ideas of communicative competence have been questioned in relation to the notion of sociolinguistic competence. The idea of sociolinguistic competence celebrates the cultural norms and practices embedded in English-speaking society. As a matter of fact, language is not a value-free media, rather it carries a particular culture which can create a social hierarchy in relation to English and non-English-speaking contexts. In accordance with the presentation of the language itself and the culture associated, it is essential for learners from a non-English speaking context to have a critical insight when learning to communicate in that particular language. That leads to the concept of ICC and it acts like a mediating lens to regulate learners' interpretation and expression, following the linguistic norms and equipping them to practice English in a preferred manner.

Through ICC, the core knowledge and skills are mediated for the applications in three major areas which are - **real-life application**, **sense of identity**, and **creative expression**. **Real-life application** covers the practice of English in everyday communication, for academic purposes, as well as for other specific purposes. As language is a medium to exchange thoughts and emotions, learners need to internalise aesthetic value for **creative expression** as well as to appreciate the beauty of literature. Additionally, being recognised as an international language, English enables learners to access and appreciate arts and literature from different contexts and cultures across the world. Apart from real-life application and creative expression, another field of application is unveiled with the language users' capability to demonstrate a sense of identity in their practice. Learners' **sense of identity** equips them with the ability to recognise and evaluate the linguistic norms with regard to the power relation in a particular cultural context; and therefore, empowers them with the ability to prefer appropriate norms over others in accordance with the context. Consequently, it enables the learners to minimise the discriminatory aspects of linguistic practice and promote democratic practice in communication.

It is worthwhile to mention that the existing English curriculum at the primary and secondary levels promotes some of the aspects mentioned above. However, since that curriculum was not competency-based, but rather mostly focused on contents, it is presumably difficult for both the teachers and learners to relate to the activities, as they were meant to be organised.

On that account, this framework attempts to connect the dots and incorporate an integrated approach in order to decipher the curricular competencies into meaningful classroom activities. This approach aligns with the recent global trends in ELT concerning the EFL pedagogical context; thereby, the tenets of critical and post-method pedagogy are contemplated and their implications are embedded in this curriculum framework.

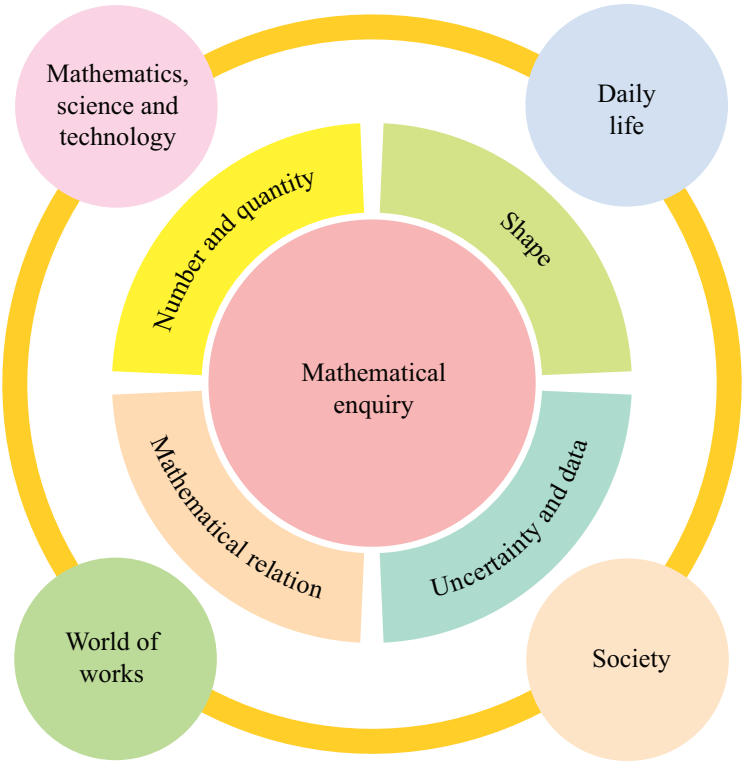
Subject: Mathematics

Competency statement

To be able to quickly assess personal, social, national and global problems by mastering and using the concepts of numbers, calculations, geometry, measurements and data analysis, to find solutions to current problems and determine what to be done about future problems through effective communication. Also, to be able to use mathematical skills to make logical and beneficial decisions, and to be able to demonstrate and apply innovative capabilities.

Conceptualisation

Mathematics is a system of thought that rationally relates abstract concepts. Therefore, the foundation of mathematics is logic and creativity. The scope of mathematics entails from complex scientific problems to daily life arithmetic.



In the design of this curriculum framework, emphasis is not just given on solving textbook problems by memorising some formulas, rather the focus is on mathematics' nature, rational thinking, and real-life application. That is why mathematical inquiry is at the centre of the conceptualisation of this subject, a process in which learners will be able to solve problems in different fields of mathematics using mathematical skills and perspectives. The discussions of different mathematical fields take place in four dimensions, which are: Numbers and

measurements, mathematical relations, shapes, and probability. The competencies that learners will acquire through the practice of mathematical inquiry in these four dimensions can be applied in different areas of their lives. Such applications are divided into four main categories, such as, daily life, social life, the world of work, and science and technology, including higher learning and research in mathematics.

Issues relevant to the subject conceptualisation of mathematics are discussed in more detail below.

Mathematical inquiry

One of the main goals of mathematics is mathematical literacy—which provides the ability to plan how to solve a problem in real life and explain and solve it in a mathematical form. This coherent process of problem-solving is called a mathematical inquiry. Mathematics is the science of precisely defined objects and concepts where it is possible to arrive at a definite conclusion by interpreting and transforming things or ideas in various ways using mathematical inquiry processes.

Presentation of arguments objectively and acceptably is a skill. In this technology-oriented world, the demand for this important skill is continuously growing. By applying mathematical reasoning, learners arrive at solutions to real-life problems, which they consider to be accurate in those contexts. The conclusion that can be drawn through mathematical reasoning, and by following the mathematical inquiry process, is much more acceptable and objective, and the process needs to be followed to solve any real or abstract mathematical problem. That is why, in this framework, mathematical inquiry has been placed at the heart of the subject conceptualisation model.

The following things can be understood as mathematical inquiry:

- Understanding quantity, number structure and their algebraic relations
- Enjoying and appreciating abstract ideas and their symbolic beauty
- Observing mathematical structures and their continuity Accepting effective relationships between numbers
- Using mathematical models as lenses in the physical, biological, social, economic and behavioural sciences
- Understanding the role of variables as the heart of statistics (Pisa 2021: Mathematical Framework)

Now, if we analyse the realisations from mathematical inquiries, two important aspects emerge:

1. Theoretical aspects: Which include numbers and measurements, mathematical relations, shape and probability.
2. Practical aspects: Which include science and technology, daily life, the world of works, and society.

As a learner pursues mathematical inquiry, they will develop through four dimensions which are described below:

- **Number and quantity**

  A number is an abstract concept. Number sense is created when a quantity is associated with a number. It is not easy to explain numbers without the concept of quantity.

  If we look at the universe, we can see that the universe ranges from galaxies to an ocean of tiny molecules and atoms and they are interacting with each other to create and bring a number of things and changes. In order to appreciate the beauty of mutual interactions between every particle and every being in this universe, the concepts of number and quantity–that is, the number sense–are the most essential mathematical aspects, which allow the learners to enter this vast domain. Added to this is expressing the properties, relationships, and positions of particles from the aspect of numbers and judging these expressions from the aspect of quantity. We perceive measurement, calculation, spread, unit, indicator, shape, trend and pattern of serial numbers from this concept of quantity. For thousands of years, human beings have tried to understand this unity and order in nature, and through generations of thoughts, practices, and tireless works have slowly progressed toward explaining the laws of the universe.

  To measure and describe the vastness of the Earth, numerical representation is an initial process that allows modelling, examining changes and relationships, size and shape and organising data, and uncertainties of a given state.

- **Mathematical relations**

  Many types of permanent and temporary relationships can be found between objects and surroundings in the natural and artificial worlds. Changes in objects occurring within a system or how one element is affecting another in the surroundings can be seen there. These changes often occur over a period (long or short). In some cases, changes in one object or quantity are related to the change in another. Sometimes, the changes are discrete and sometimes continuous. These relationships are sometimes long-lasting and irreversible in nature. These changes can be predicted and explained in the light of mathematical models. Therefore, changes and relationships can be mathematically modelled with appropriate functions and equations. These models represent a real-life phenomenon through symbols or graphs.

- **Shape**

  In our visible world, we constantly encounter phenomena related to size and shape, such as geometric patterns, properties of objects, position and orientation, presentation of objects, coding and decoding of visible information, interaction with actual shapes, and so on. Although geometric concepts build the base of the interpretation of shapes, geometry also plays a role in the conceptualisation of measurement and algebra.

  The shapes we usually encounter are not symmetrical. So, it is complicated to measure such irregular shapes with simple geometry formulas. Therefore, to measure shapes, one has to rely on approximate results. Here, emphasis is given to keeping it as error-free as possible.

Uncertainty and data

Probability or uncertainty cannot be ignored in science, technology, daily life or society. Therefore, probability or uncertainty is a significant aspect of mathematical interpretation. The phenomenon of uncertainty plays a key role in solving mathematical problems, feasibility checks, and data presentations.

Graphs and statistics occupy an important place in presenting health risk assessment, electoral opinion, population trends, and so on. Each field highlights a possible outcome. It is important to present probabilities by collecting, managing and analysing the data.

In light of the four dimensions mentioned above, it is essential whether a learner is able to apply the acquired mathematical literacy to solving problems in different contexts. The four main areas of application are described below:

- **Mathematics, science and technology**

  Application of mathematical literacy is needed in higher learning and research in various areas of mathematics and in various fields of science and technology, such as weather and climate, ecology, space science, pharmaceuticals, genetics, and so on.

- **Daily life**

  People have to use mathematics constantly in many areas of their daily lives, such as food preparation, buying and selling, personal health, travelling, preparing daily work schedules and so on.

- **The world of works**

  Mathematical concepts have to be used to solve many problems in the world of work; for example, the use of mathematics is notable in areas such as measurement, budgeting, accounting, quality control, office scheduling, descriptive lists, designing, employment decision-making, and so on.

- **Society**

  Mathematical knowledge has to be applied to solve problems in social contexts; for example, in various local, national and international contexts, such as electoral systems, public transport systems, governments, demographics, notifications, national statistics, economies and so on.

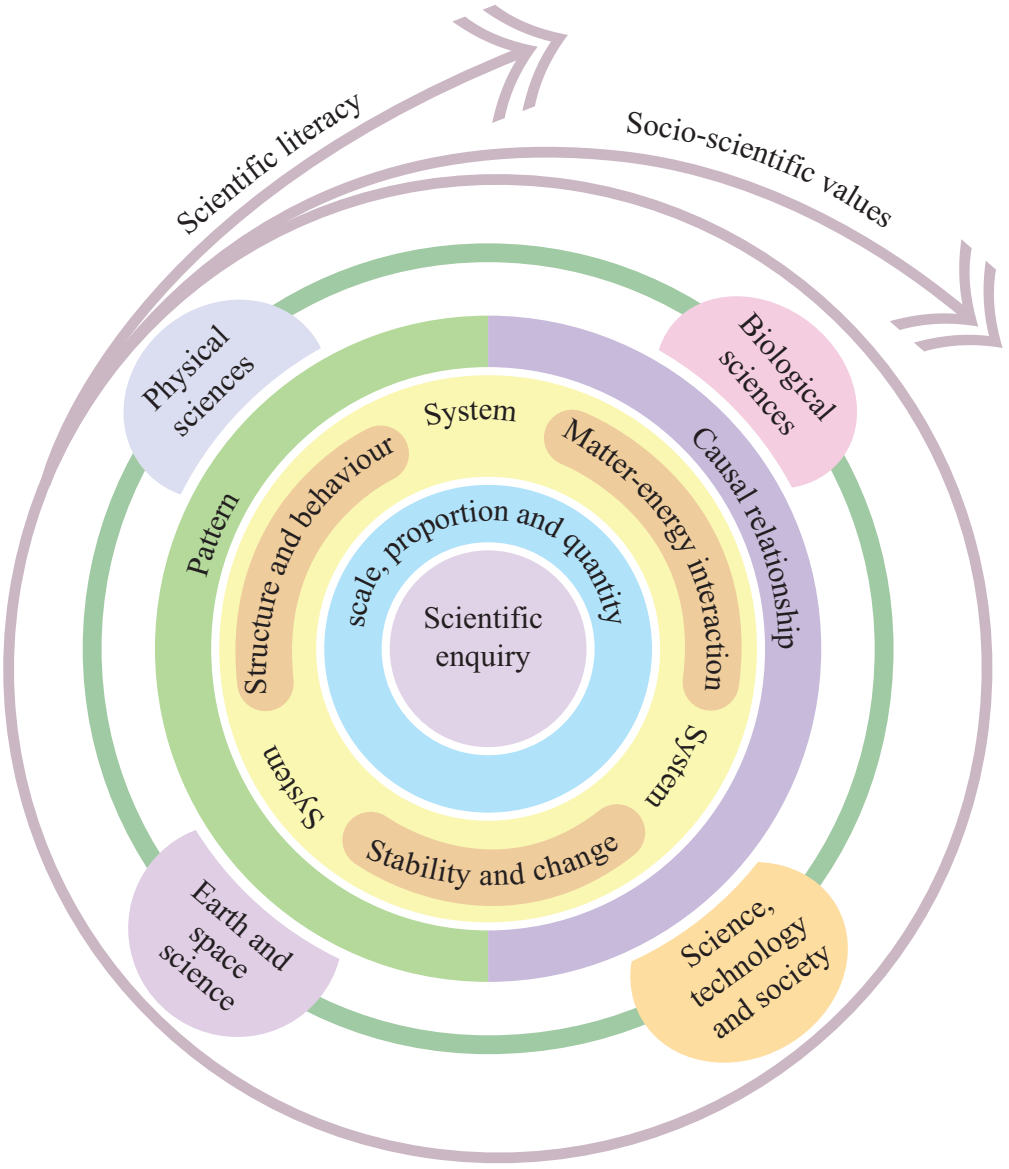
Subject: Science

Competency statement

To be curious about nature and the universe, to unravel their mysteries through scientific inquiries, and to realise their inherent beauties. To improve the quality of life through science and technology, and to make a positive contribution to national and global well-being.

Conceptualisation

Science is not a separate subject from society or nature, rather one of the purposes of science education is to try to understand phenomena of nature through scientific inquiry. Therefore, in this framework, science education is not limited to theory and information and certain



laboratory tests, rather it emphasises the acquisition of scientific literacy–which will help learners develop a scientific outlook and science-oriented lifestyle.

As a subject in the curriculum, the purpose, importance, and related learning areas of science have been considered to generate the following subject conceptualisation–

Science, through exploratory activities, seeks to unravel the mysteries of the universe. To conduct this scientific exploration properly, it requires the concepts of scale, ratio and quantity. In order to explain the events taking place in a particular system, the system has to be closely monitored, and the system and the structure and behaviour of its components their inertia and change, and interactions between matter and energy occurring inside the system have to be taken into account. Based on evidence found through scientific observations, attempts are made to find out patterns and causality of these phenomena. Following a period of repeated experimentation, the knowledge gained through exploration is established as a scientific theory. Scientific data and theory revealed over time, combined with the mainstream of science, gradually unfolds three specialised fields: Physical science, biology and earth and space science. Outside of these three specialised fields, another area of discussion becomes important, which is science, technology and society.

One of the important objectives of science education at primary and secondary levels is not to burden learners with scientific information, but to make them accustomed to a science-oriented way of life with a thorough understanding of the philosophy of science, scientific methods, and so on, through exploratory learning. As a result, scientific literacy, combing scientific knowledge, skills, qualities and values, will gradually develop among the learners. At the same time, they will be able to solve real-life problems in their daily affairs using scientific skills and approaches as well as behave responsibly and sensitively in both personal and shared settings upholding socio-scientific values.

Issues relevant to the subject conceptualisation of science are discussed in more detail below.

- **Scientific inquiry:** Every person is born with a curious mind. Various objects and events of society and nature move that curious mind even further. That person wants to know: why is this so? What is the story behind this? To find answers to all these questions, the method that one has to resort to is scientific inquiry. Scientific inquiry is an integrated method combining certain techniques through which efforts are made to unravel the mysteries of nature based on observable evidence. To master this method, learners have to go through a logical, systematic, and continuous process that makes them science-minded. In order to conduct scientific explorations properly, it is necessary to acquire some scientific skills and approaches.
    - **Scientific skills and approaches:** Scientific inquiry requires, first of all, the curious mind that resides in every child. Besides, the learner needs to have some processing skills for acquiring scientific methods of inquiry, which further sharpens their inquiry process. And these skills are called scientific skills. Since scientific theories and information have to be accepted only on the basis of evidence, holding scientificqualities like neutrality and objectivity is a prerequisite for conducting

scientific inquiries properly.

- **Scale, ratio, and quantity:** It is important to consider micro-scale or macro-scale terms in planning any scientific inquiry, because the things that are relevant to the inquiry process may sometimes vary depending on these terms. Also, conducting this inquiry requires knowledge of various quantities, the relationships between them, and the ability to measure different types of quantities. Again, the effect of these differences in scale, ratio and quantity on objects or phenomena of nature is also a subject of scientific discussion. So, it is necessary to have an idea of scale, ratio, and quantity for scientific inquiry and for understanding the theories and concepts of science.
- **System:** The learner sees with their exploratory eyes that everything from molecules and atoms to the things in their surroundings and the large universe form a number of systems; each large system is again a collection of numerous subsystems. Science is concerned with finding the patterns and causal relationships between the structures and features of living and non-living objects inside any system, the interaction of matter and energy within the system, and rest and motion of the system and its components.
  - **Structure and behaviour:** Analysethe structure of living and non-living objects in nature, and review their behaviour and functions based on the analysis.
  - **Interaction of matter and energy:** Investigate the interactions of matter and energy within a system and how they affect the system.
  - **Stability and change:** Thorough analysis of the conditions for a natural or artificial system's stability and its various changes or evolutions.
- **Pattern:** A pattern is the repetition of an object or natural phenomenon according to certain rules. The pattern of natural objects and phenomena helps to categorise them into types. Interrelations of these phenomena can be established by exploring certain patterns.
- **Causal relationship:** Finding the causal relationship behind any natural phenomenon is an important task of scientific inquiry. An empirical explanation of why certain phenomena occur in nature and what kind of interactions work behind them helps to understand how the universe works.

In explaining natural phenomena through scientific inquiry, three specialised fields gradually emerged:

- **Physical science** deals with structural features, interactions, rest and motion of matter and particles;
- **Biology** deals with structural features, interactions, rest and motion of living beings; and
- **Earth and Space Science** deals with the structure and nature of the entire universe, starting from Earth.
- In addition to these three specialised fields, another field of practical discussion is **Science, Technology and Society (STS)**. The main topics discussed here include the applications of science in everyday life, the progress of human civilisation, and the uses of technology and its impact on various aspects of society.

The science curriculum will revolve around the aforementioned discussion areas. The main objective of this curriculum is to gradually inculcate scientific literacy among the learners through exploratory learning. At the same time, one of the key objectives is to develop socio-scientific values in the learners.

- **Scientific literacy:** The ultimate goal of science education is to build a scientifically literate society. Therefore, this curriculum emphasises exploratory learning so that science education is not limited to the study of scientific theories alone, rather it develops the learner's inquisitiveness, processing skills, and scientific outlook. As a result, a scientific mindset will be created inside the learner which will have an impact on their everyday life or on their ability to solve problems or make decisions. It is expected that this practice—a combination of scientific knowledge, skills, attitudes, and values—will help the learners gradually build scientific literacy. Special emphasis is placed on learners' metacognitive skills as an integral component of scientific literacy.
    - **Metacognition:** Metacognitioncan be described in plain words as 'learning to learn': what to learn, how to learn, how to be evaluated, that is, the entire learning process to be managed by the learner with full awareness and to acquire reflective learning skills. Exploratory science education helps learners develop metacognitive skills. Through metacognitive learning, the learner becomes eligible for lifelong learning and is equipped to take responsibility for their further learning by combining scientific skills and attitudes.
- **Socio-scientific values:** This curriculum has repeatedly raised the issue of developing a scientific mindset among learners. The practice of scientific thinking should not be limited to science studies alone but should be applied in all spheres of life. Therefore, socio-scientific values have been emphasised in this framework. Along with practising scientific thinking in science education, it is also important to inculcate cross-disciplinary values among learners. Its objective is to enable the learners to analyse their surroundings and the impact of human activities on them from a scientific perspective and to try to provide scientific solutions to local and global problems. By embracing scientific values, they will be able to assimilate the philosophy of science into their own culture and be curious about the diversity of nature, environment, and culture, respecting its diversity; they will demonstrate scientific thinking in analysing all natural and social issues; appreciate the nature and beauty of science; and recognise themselves as an integral part of the nature.

Subject: Digital Technology

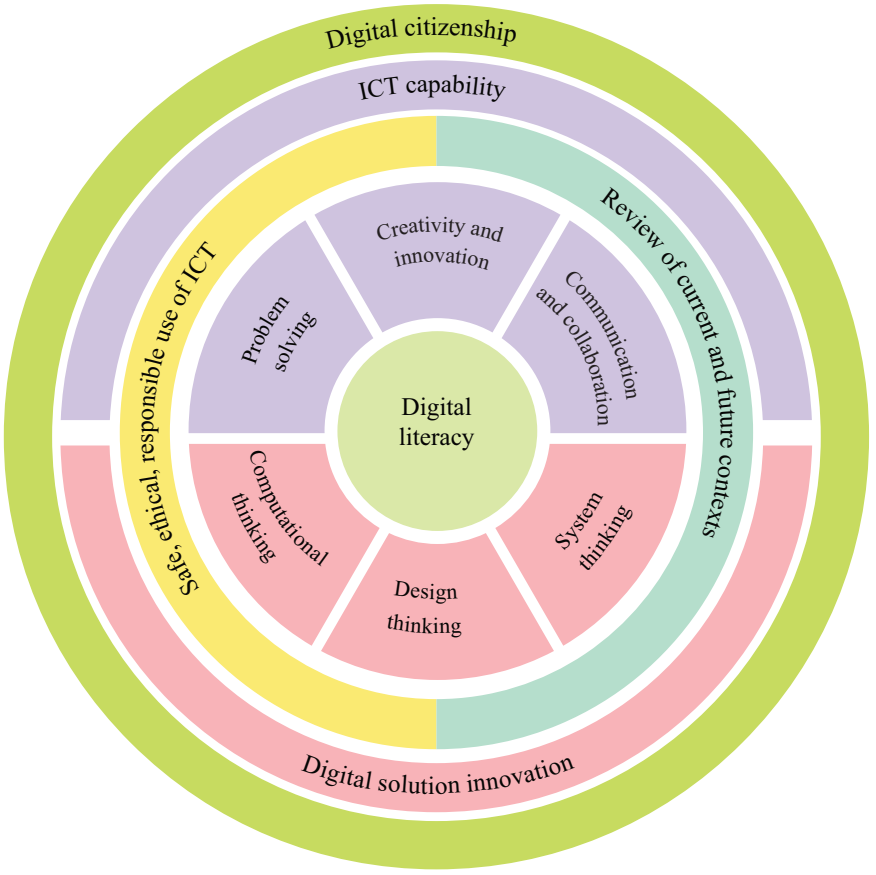
Competency statement

To be able to use information and communications technology appropriately, securely, ethically, creatively and responsibly in all spheres of life and to build a promising future by acquiring digital technology capabilities.

Conceptualisation

The conceptualisation of digital technology does not limit its scope to the use of information technology only. Rather, the subject conceptualisation has been developed in such a way that the learner will not only be a user of information technology but will also acquire digital literacy, and will be able to use their creative and innovative mind to invent their own digital solutions to solve problems around them. This will not only create ICT capabilities in them but also enable digital technology capabilities, which will make them digitally empowered citizens.

In this curriculum framework from pre-primary to Grade 12, digital literacy is placed at the centre of digital technology subject conceptualisation. Data literacy is a key component of



digital literacy. Using digital literacy, learners will acquire coherent thinking skills that will enable them to create their own digital solutions. The thinking skills that are particularly emphasised in this conceptualisation are computational thinking, design thinking, and systems thinking. Besides, learners will acquire skills in problem-solving, communication and collaboration, and creative innovation, which will help them build their ICT capabilities.

In order to build digitally empowered citizens, two more areas need to be understood, namely: safe, ethical and responsible use of ICT, and current and future contexts. Learners need to consider these issues in both ICT capabilities and digital technology capabilities.

Issues relevant to the subject conceptualisation of digital technology are discussed in more detail below.

Digital literacy: Digital literacy is essential to living as a competent member of today's technology-driven society. The Information literacy ability is an important component of digital literacy, however, its scope is much wider. Digital literacy also includes the ability to verify the effectiveness of various digital technologies using critical thinking skills, the ability to make appropriate, creative and responsible use of suitable technologies proficiently for different needs, and the ability to create and present one's own content.

Information literacy refers to all aspects of information management, including finding objective information, using and storing information safely and responsibly, and evaluating the information sources impartially. Information literacy deals with data/information available from all media; nowadays, media literacy is one of the significant components of data literacy. Massive digital media databases are now open to the public; these digital media contents are clearly impacting people's likes, dislikes, and opinions. Therefore, it is important to objectively analyse the position of the source person or institution, socio-cultural-political contexts, credibility, and so on, before taking data from any media. Simultaneously, it is also necessary to practice responsible behaviour by considering potential risks and issues before using or sharing data. Moreover, it is necessary to acquire the practical skills to create and share one's own digital content rather than taking digital media as merely a medium for receiving data. As digital technologies have become a part of our daily life, it is not easy to acquire data literacy without a thorough understanding of these technologies and related practical skills. On the other hand, it is important that future learners take on the role of innovators rather than merely being users of technology. Digital literacy is also needed so that learners can invent effective digital solutions to various problems using creative thinking. In view of this, attainable competencies have been identified so that learners can acquire digital literacy at primary and secondary levels and apply these skills throughout their life.

The competencies that learners will acquire through digital literacy can be explained along the following dimensions:

- **Communication and collaboration:** Thanks to information and communication technologies, the world has become a global village, where anyone sitting in any part of the world can instantly communicate with someone from the other end. In this technology-driven world, the ability to communicate using digital platforms, whether

for problem-solving or any other creative work besides personal needs, is as important as acquiring the skills for working together based on cooperation. In this regard, it is not enough to be proficient in using ICT alone, but the ability to communicate by determining the appropriate mode of communication for a certain target group in a context is also important here.

- **Problem solving:** This framework lays special emphasis on acquiring the ability to make appropriate and creative use of information and communications technology to solve individual or collective needs or problems. Emphasis is placed not only on the use of technology for data collection but also on enabling learners to use appropriate digital technology properly at every step from planning to solving any problem.
- **Creativity and innovation:** This category of competencies includes not only the creative use of information and communications technology to solve problems but also the ability to create digital solutions, from content generation to applying innovative capabilities to problem-solving.
- **Computational thinking:** Computational thinking is one of the key skills required to acquire digital technology capabilities. It is a coherent mathematical thinking process of problem-solving, which involves breaking down complex problems into smaller parts, logically organising data, sequencing the steps of problem-solving, finding patterns, and so on.
- **Design thinking:** Design thinking is another key aspect of digital technology capabilities. It is the systematic process by which creative, innovative and effective solutions to a problem are developed and validated on reasonable standards.
- **Systems thinking:** Systems thinking is a concerted effort to unravel the interrelationships of a certain problem and its proposed solutions, the nature of the respective system and the surrounding social context. It is also about how digital systems work, how their components and interactions affect the whole system, and how changes in digital systems affect society and the economy.

To acquire competencies in the dimensions mentioned above, the learner has to be aware of two things: safe, ethical and responsible use of ICT and current and future contexts.

- **Safe, ethical and responsible use of ICT**: With the advent of information and communications technology, communication has become incredibly easy, but new risks have also arisen. It is not enough for learners to be aware of these risks, it is also important for them to have skills in the safe and ethical use of ICT technology to address these risks. It is therefore necessary to have knowledge of the ethical and legal frameworks for the protection of intellectual property rights and the laws and legal frameworks relating to various crimes committed on digital platforms and their implications for social structure. At the same time, it is also necessary to acquire skills in using information and communications technology while respecting personal identities, privacy and feelings, customs and social values.
- **Review of current and future contexts:** While it is important to consider the demand, availability, and use of information and communications technology in a certain social context to achieve digital capabilities, it is also essential to review how the use of ICT

technology affects the social context. Information and communications technology is constantly changing, and it also affects the socio-economic system in many ways. As a result, new technology opens up new possibilities as well as risks in society. Learners need to develop the skills and attitudes required to deal with these risks and positively harness the potential of technology. Given the pace at which information and communications technology has been changing since the advent of digital technology at the end of the last century, consideration of the current context alone is not sufficient to acquire digital capabilities. Rather, to maintain the relevance of acquired competencies, a thorough analysis of how this context can change in future and how it may impact personal and social life as well as the world of work is essential.

Through the topics mentioned above, learners will acquire two types of skills, namely: ICT capabilities and digital solutions innovation.

- **ICT capabilities:** In a large part of the world, Information technology has become an integral part of daily life, and it is only growing with time. Therefore, in the competencies described in the curriculum framework, acquiring the ability to use information technology in a safe, ethical, appropriate, effective and moderate way in everyday life is now prioritised over learning the skills to use everyday technology.
- **Digital solutions innovation:** In view of the realities of the 21st century and to build a skilled population suitable for the Fourth Industrial Revolution, one of the goals of digital technology education has been set to develop digital technology capabilities among learners, for which this curriculum focuses on the learners' ability to create creative and innovative digital solutions. This will not only enable them to solve various problems of the present day, but also open the door to new possibilities in their future life.

Digital citizenship: This framework places emphasis on developing learners as digital citizens. Digital citizenship has been defined with the aim of enabling learners to position themselves efficiently in a digital society. The areas in which a digital citizen is expected to acquire competencies are listed below:

- Digital literacy
- Creating digital solutions
- Digital footprint
- Privacy and security in digital systems
- Ethics and etiquette in using digital technology
- Social values in digital media
- Cybercrime
- Intellectual property and copyright

At the primary education level, digital technology is not a separate subject. So all the learning competencies at this level will be achieved through learning experiences in all other subjects, including mathematics, as a cross-cutting issue.

Subject: History and Social Sciences

Competency statement

To be able to play a positive role in transformation by reviewing, from a scientific point of view, one's own position in the world, history, culture and identity, various elements and structures of natural and social environments, and to be able to play a role as a global citizen to build a developed, safe and sustainable Bangladesh and world by practising resource management.

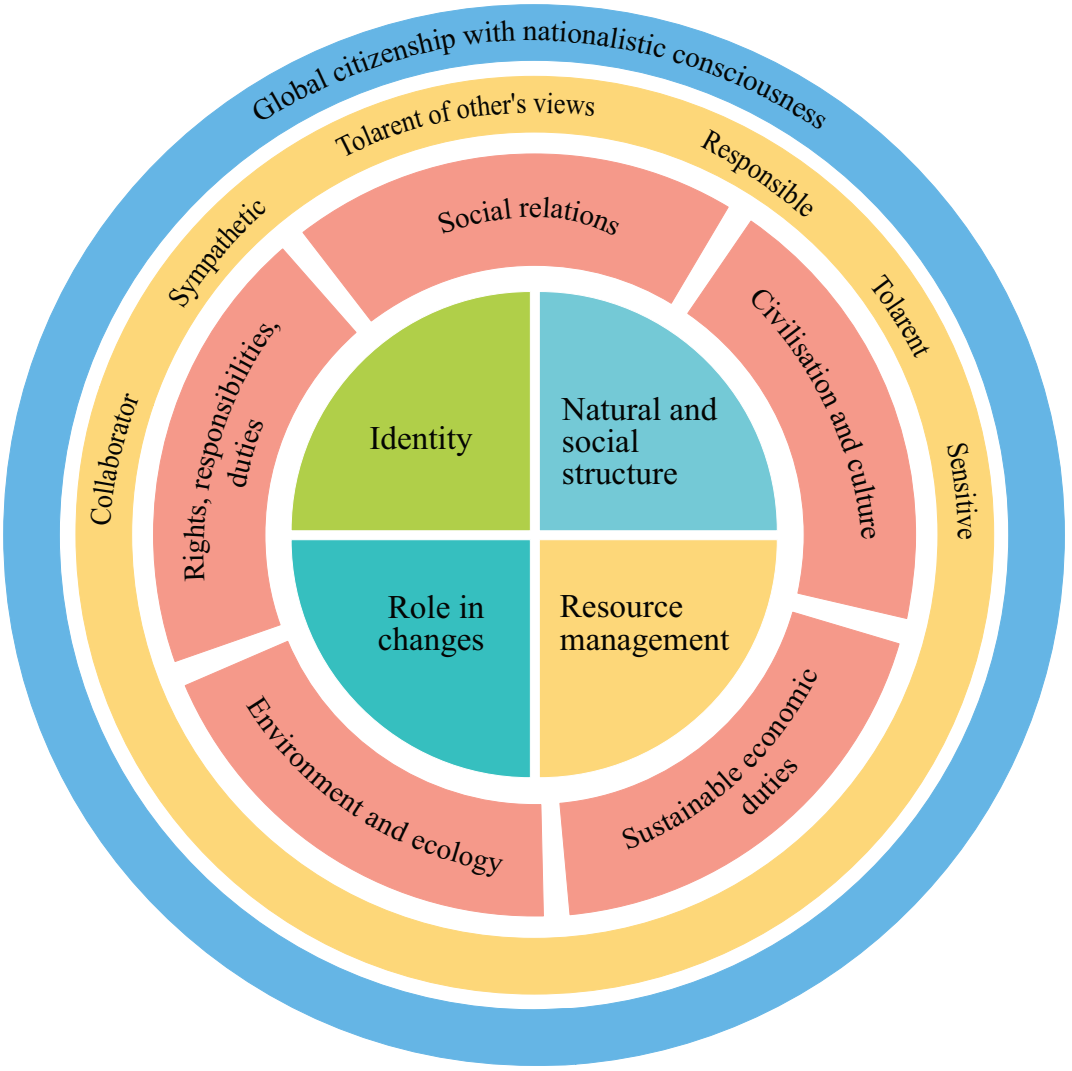
Conceptualisation

Through history and social sciences, learners will acquire the social competencies necessary to fulfil their roles as global citizens of the twenty-first century. By upholding the ideals of the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman, the greatest Bengali personality in the nation's history of a thousand years, and the spirit of the Liberation War, the learners, being motivated by patriotism through this subject, will acquire the competencies to rise above personal interests and give priority to the national interest; they will be able to inquire about the cause/effect and impacts of relentless changes taking place in nature and society; they will be able to acquire the competencies to investigate the interrelations between natural and social structures using basic concepts of logical inquiry. they will be able to fulfil the role of a conscious citizen by learning about democratic values, rights, duties and responsibilities; they will be able to play a role in the sustainable use of resources and environmental protection by upholding the principle of social justice in the light of the spirit of the Great Liberation War and basic principles of the Constitution.

Though History and Social Sciences contributes as a crosscutting issue to acquire certain competencies in all the ten core learning areas outlined in the framework, the main areas of focus in this subject are social and global citizenship, environment and climate, and life and livelihood. The competencies in these learning areas have also served as the basis for determining subject-wise competencies.

By analysing the core topics of the subjects studied in the broad spectrum of social sciences (History, Sociology, Anthropology, Economics, Geography, Political Science, Philosophy, Psychology, Law, and so on), four key dimensions are identified: self-identity, natural and social structures, positive role in changes, and resource management. Based on these four dimensions, subject conceptualisation is done.

According to the curriculum's concept, a learner, through the study of social sciences, will acquire the necessary competencies in the visible and abstract structures of nature and society and the functions and interactions of these structures. Along with that, by observing the interactions between natural and social structures, the learner will be able to explore their own identities in the context of their own historical, political, cultural, geographical,



and socio-economic contexts. Moreover, they will realise that all the natural and social structures around them and their roles are constantly changing. This changeability always creates opportunities and risks, which affect nature and society in many ways. A learner will acquire the competencies necessary to play a positive role in the changeability of nature and society by tackling the risks and utilising the opportunities. Resources are essential elements in the development of human civilisation. Therefore, proper management of the limited resources of the world is very important for sustainable development. Thus, resource management adds a different dimension to social sciences. The competencies that a learner is expected to acquire in light of the four dimensions discussed earlier will facilitate acquiring qualities and values like cooperation, tolerance, sympathy, tolerance to the opinions of others, responsibility, and sensitivity, by practising in the areas of civilisation and culture, social relationships, environment and ecology, sustainable economic management and rights, duties and responsibilities. And through the competencies thus acquired, a learner will become a global citizen with a sense of nationalism.

A short description of the four dimensions that are taken into account for determining the competencies of History and Social Sciences are given below:

Self-identity

Constructing one's identity in historical, political, cultural, geographical and socio-economic contexts is a central theme of History and Social Sciences, and has been defined as a dimension to mastering all subjects in an integrated manner.

Natural and social structures

One of the central themes of all natural social sciences is the scientific exploration of different types of structures. So, these structures are taken as a dimension in defining the competencies in the History and Social Sciences discipline from Grade 1 to Grade 10. It should be noted that natural structures usually refer to various elements and systems of nature, such as rivers, seas, oceans, mountains, continents, and so on, while social structures usually refer to family, religion, customs, culture, democratic values, political institutions, economic institutions, and so on.

Positive role in changes

Natural and social structures are constantly changing on the basis of their mutual interactions. Exploring the objective patterns of this changeability is an important topic in social sciences. Any change leads to possibilities and risks. Acquiring the competencies to determine the appropriate positive roles, taking into consideration related risks and possibilities, is an important area in social sciences. In view of this, the positive role in changes is taken as a dimension for defining competencies of History and Social Sciences discipline.

Resource management and conservation

Resources are essential for development, but natural resources are limited. The production, distribution, consumption and conservation of resources using nature, that is, resource management and conservation is therefore defined as a dimension of History and Social Sciences discipline.

Subject: Life and Livelihood

Competency statement

To be able to develop a positive attitude towards all jobs by understanding the changing world of work; to be able to gain pre-competencies, practical skills and experience relevant to the world of work through everyday work practices in preparation for entry into the world of work; to be able to adapt to future skills while remaining risk-free and safe in the world of work; and to be able to contribute to ensuring a safe and joyful working environment for all.

Conceptualisation

Learners of this century are facing a constantly changing world due to unprecedented advances in science and technology. In this changing world, along with emerging fields of work and livelihoods are changing. The era of the Fourth Industrial Revolution is knocking on the door. In the past, machine learning, robotics, big data, artificial intelligence, nanotechnology, three-dimensional printers, genetics and many other technologies of the 21st century developed separately, but now these technologies are becoming more inter-dependent and developing at such a fast pace that they are reshaping the entire world system. That is why it is important to develop the necessary life skills and employability to ensure the survival of the next generation in the world of work which has changed in the wake of the Fourth Industrial Revolution. A study concluded that 65% of the children who go to primary school today will enter the world of work with a job that does not currently exist.[4]. Considering such a rapidly changing and unexplored world ahead, the Life and Livelihood discipline is designed for today's learners to build the knowledge, skills, values and qualities required to enter the world of work of tomorrow.

According to the BANBEIS 2019 report, about 18% of learners dropped out of the education system before completing primary education, about 38% of learners at the secondary level dropped out before completing Grade 10, and about 20% of learners at high secondary level dropped out before completing Grade 12.[5] That means, on average about 70% of learners drop out of school before completing Grade 12 and instead enter the workplace without any professional training or skills. Again, a large number of learners remain unemployed even after completing higher secondary or an undergraduate degree. The reason behind this is the failure of the general education system to provide learners with the skills the world of work requires.[6] Therefore, the Life and Livelihood subject is included in the general education stream so that all the learners of this stream may join the labour market with professional skills after completing secondary or higher secondary education.

4 The World Economic Forum, 2016, "The Future of Job" https://reports.weforum.org/future-ofjobs-2016/chapter-1-the-future-of-jobs-and-skills/

5 BANBAEIS 2019

6 World Bank (2018), "Bangladesh Skills for Tomorrow's Jobs: preparing youth for a fastchanging Economy"

Through Life and Livelihood, learners will prepare themselves appropriately to enter the future world of work. They will be able to plan their career properly considering the evolving labour market due to the impacts of the Fourth Industrial Revolution and systematically take various practical steps to implement their career goals or plans. Apart from acquiring professional skills, they will gain the necessary skills suitable for the 21st century. In addition to acquiring transferable skills and occupational skills for entering the world of work, learners will contribute to the development of those skills, realising their responsibilities to themselves, their families, society, state and the world.

This subject will help the learners gain confidence and self-reliance by creating interest in their work, developing a respectful attitude towards people from different walks of life, and acquiring the ability to perform different tasks in everyday life. Life and Livelihood will enable the learners to acquire future skills as per their interests and inclinations, and by using those skills, the learners will be able to adapt to any situation by facing the risks and challenges that may arise in their personal, familial and social life.

Four dimensions are defined for acquiring the above-mentioned competencies:

Introspection and self-improvement: To prepare oneself for the future world, the first step is to know one's own self. By knowing one's own self, that person will not only know their likes and dislikes but also gain a thorough understanding of their personal strengths and capabilities as well as weaknesses and areas of improvement, and thus will be able to sustain their efforts

for continuous personal development. People tend to do better in professions they like, as they enjoy their work. That is why introspection and self-improvement are defined as a dimension here. At the same time, by awakening positive self-esteem, the learners will strive to fulfil their responsibilities towards themselves, their families, society and the nation; they will be motivated to fulfil their personal work, familial work, school responsibilities, and social and national responsibilities.

Career planning: Career planning is crucial to be successfully established in life. Through career planning, the learners can systematically choose their future profession considering personal preferences and capabilities and prepare themselves accordingly. By analysing the impact of the Fourth Industrial Revolution on the labour market in the changing world as well as the family capabilities and capacities, the learners should make effective career plans considering their personal interests, inclinations, and skills. In the present context, considering the changing world and the unknown future, planning should be done in such a way that it can be modified or revised in any circumstances or adjusted over time.

Professional skills and experiences: Learners should acquire skills alongside their studies so that they can prepare themselves for the workplace at the end of their education, or get decent employment by acquiring skills in a particular profession. This will be done by acquiring skills in an occupational subject in coordination with technical education.

Future skills: In the wake of globalisation, the Fourth Industrial Revolution and demographic transformation, the ongoing processes of global change are creating new professions and ending many old ones. Future skills are defined as dimensions to provide the opportunity to prepare for future new professions. To adapt to unknown situations, a person must stay updated and ready for lifelong learning. Since we do not know the specific skills required for new professions, there will be opportunities to acquire 21st-century skills, especially critical thinking skills, problem-solving skills, collaboration or teamwork skills, creative skills and communication skills.

Each dimension will include the development of skills and positive qualities/attitudes and staying safe and secure.

Through this subject, learners will acquire knowledge and understanding as well as practical skills through the practise of everyday work. They will also acquire moral and humane values through real-life activities. The subject is planned in such a way that each learner can acquire a professional skills as well as practical experiences. In addition to gaining experience participating in income-generating work in the school or local area as per local needs and conditions, learners will gain experience in investing as entrepreneurs.

Through Life and Livelihood, learners will either prepare for further higher education or they can enter the workplace by acquiring the necessary skills for a profession related to occupational courses. This subject will prepare and motivate the learners to be entrepreneurs.

Life and Livelihood is not a separate subject at the primary level, but the foundation of competencies of this subject will be built in the learners from the primary level. Life and Livelihood issues are logically incorporated at the primary level with History and Social Sciences and Well-being as crosscutting issues, which may have implications for other subjects.

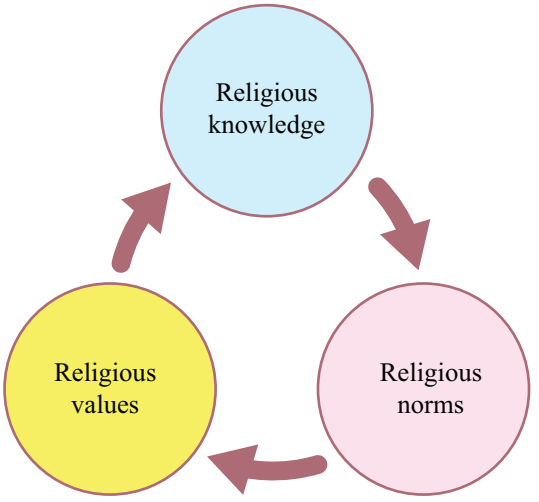
Subject: Religion Studies

Competency statement

To be able to acquire and foster moral and humane qualities by following and practising religious norms through comprehending the importance and significance of the foundational ideas, beliefs and sources of knowledge of the religion. To be able to live peacefully in harmony with all, irrespective of race and religion, demonstrating love and responsibility towards the universe and God's creation.

Conceptualisation

It is very important for every learner to know about their own religion and practice it in their life by realising religious knowledge, beliefs, values, rules, norms and tenets. Because, on the one hand, religion helps to find meaning, value and purpose in life, and on the other hand, it helps to understand the self and others. Religion Studies can play an important role in developing the learner as an honest, righteous, responsible, compassionate and humane person, and in establishing themselves as tolerant, non-sectarian, pure-hearted human beings by refraining from all kinds of unjust, deplorable and forbidden acts. At the same time, it is important to realise the intrinsic ethos of religion in order to ensure



peaceful coexistence by showing tolerance towards other people's religions and beliefs, which can be achieved through proper religious education. Acquiring proper religious knowledge is also important so that no one can mislead people or create any confusion or revulsion by misinterpreting religious sentiments and feelings and people's respect and faith in religion. Considering the issues mentioned above, Religion Studies as a subject has been conceptualised through three interconnected fields in the curriculum framework. Priority will be given to the following themes and the acquisition of related competencies through the fields of religious knowledge, religious norms and religious values—which, as a whole, will help to acquire the competencies of religious education.

Religious knowledge	Basic religious knowledge and beliefs, interests in knowledge acquisition and sources of knowledge, knowledge exploration methods, application of knowledge
Religious norms	Practising religious rituals and customs by knowing and understanding, comprehending the importance of religious tenets and the intrinsic beauty of the religion
Religious values	Adopting and practising admirable and exemplary behaviours and avoiding reprehensible behaviours

It is possible to build a stable, amicable, happy society and world by inspiring people to understand and practice the beauty of religious rules and norms through this subject of Religion Studies, which has been prioritised in the curriculum framework.

Subject: Wellbeing

Competency statement

To be able to lead a healthy, safe and beautiful life and inspire others by managing age-based internal and external changes and addressing the challenges effectively through physical and mental health care. To contribute as an active and humane citizen by adapting to the constant changes in the familial, social and global spheres through positive communication while respecting one's own and others' opinions and positions.

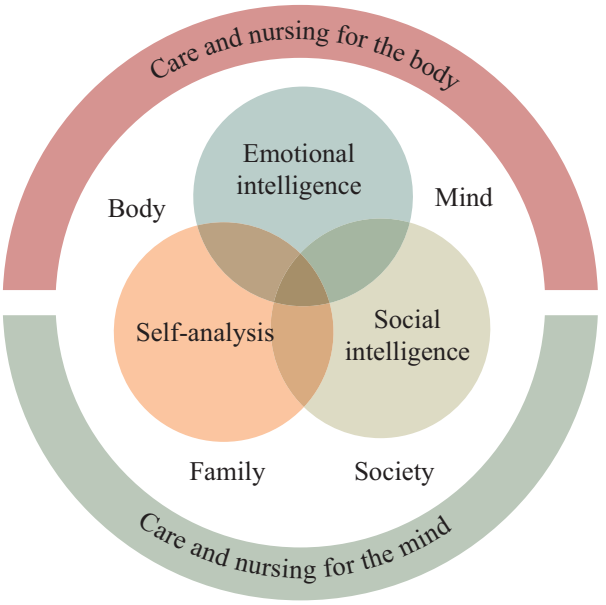
Conceptualisation

One needs to warrant one's well-being along with everyone else's by ensuring one's own health, safety, security and participation amid altering intra- and interpersonal relationships and ever-changing contexts. One's dreams and future largely depend on ensuring one's own and others' well-being, which also plays an important role in building a healthy society and a safe and liveable world. Previously, in the formal education system, competencies related to physical and mental health and safety were considered a part of academic studies or a part of co- or extra-curricular activities. But everyone has to acquire certain competencies to deal positively with the impact of alteration in intra- and interpersonal relationships in the changing contexts in order to move forward ensuring well-being for all. These competencies are not created spontaneously, rather the learners need to be taken through health education and care as well as challenging, enjoyable, contemporary, active and relevant learning experiences. Out of these experiential learnings, the learners get to know their own and others' characteristics, abilities, limitations, emotions, feelings, and preferences, and thus understand themselves and the position of others and can live a successful and happy life assuming the responsibilities of proper physical and mental health management, including positive, effective communication and relationships management.

In the subject conceptualisation of Well-being, internal empowerment strategies are considered instead of undertaking reactive initiatives, which, though time-consuming, help the learners overcome difficult obstacles and be resilient by being confident and humane from within. By acquiring these relevant competencies, the learners comprehend their own and others' emotions and feelings, exchange and express opinions, participate effectively, introspect and evaluate, manage relationships (maintain and break down, where applicable), recognise and deal positively with successes and failures, manage emotional and mental stresses, and, above all, can develop themselves, through self-care, to be healthy, sensitive and sophisticated human beings. Through this process, the learners develop a positive attitude towards people, society and the world. As a result, the learners can ensure their well-being and live a meaningful life by engaging themselves in the service of humanity and nature by understanding the emotions, feelings, and pains of others, feeling empathy or equanimity and resolving all kinds of risks, conflicts, frustrations, anger and hatreds.

Considering the rationale, importance and scope of the subject, it is conceptualised as follows.

Care and nursing for body and mind: The most important way to ensure one's well-being is self-care, that is, to passionately care and nurse for one's own body and mind. Healthy, positive, sensitive and effective management of situations arising from the constant interactions within and between the learner's body, mind and environment requires constant nursing and care. Thus, the ability to self-care continuously is essential for every learner. **Everyday care and adolescent health, nutrition and dietary habits, exercise and sports, illness and accidents, risk management, relationship management, emotional intelligence, stress management, hobby and recreation, participation, volunteering, and so on are all part of self-care.** The impact of interactions of body and mind with family and society is very important in self-care; therefore, one of the important elements of one's own well-being is to take care of others. The following capabilities are very important to know, understand, comprehend and realise for effective self-care.



1. **Emotional intelligence**: It includes the competencies to perceive and understand one's own emotions and feelings, to understand and manage the feelings and emotions of others, including expressing and managing them positively, to make logical and healthy communication and management and to show patience and sensitivity. The ability to think logically, analytically and constructively, and to take a positive role by determining priorities are also part of these competencies.

2. **Self-analysis**: It includes the competencies to make decisions and measures based on analyses and rational assessments through realising one's own characteristics, qualities, abilities and limitations, coming to terms with oneself, relating one's feelings and emotions, and seeking appropriate assistance according to needs and wants while keeping assessments analytic and constructive.

3. **Social intelligence**: Competencies related to social intelligence are very important for being an active member of society and having a positive participation and role in social activities with all and being able to respect and love oneself by being satisfied with one's own activities and roles. Building and maintaining social relations through rational self-analysis and assessment of one's own and others' strengths and limitations, dealing with/managing risks and pressures relating to interpersonal relationships, being able to resolve conflicts and reach agreements keeping patience and sensitivity while remaining firm, confident and flexible, where applicable, and maintaining social networks are some of the competencies of social intelligence.

Therefore, the learners will ensure their and others' well-being through achieving emotional intelligence, self-analysis, and social intelligence, in the context of constant interactions of body, mind, family, and society, while loving themselves and realising their own responsibilities through continuous proper nursing and care for their bodies and minds.

Subject: Arts and Culture

Competency statement

To replicate by observing and feeling natural and social diversity and interrelationships; to learn about culture, and to be able to appreciate various creative streams (arts and crafts, dance, music, instrumental music, recitation, acting, literature, and so on), through their mutual transformation; to be inspired to practice those and to be able to develop and flourish latent creative talents; to be able to develop sensitivity and aesthetic senses; to be able to retain and cherish one's own culture and traditions and to show respect to other cultures; to be able to consider any stream of art from higher education or self-reliance by embracing art.

Conceptualisation

Arts and culture are important factors in aesthetically universalising the traditional forms of one's own nation. In this era of globalisation, almost every nation of the world has brought its heritage and culture to the world through education based on arts and culture, and at the same time, is moving ahead in economic development with emphasis on its own sense of arts and aesthetics. The importance of proper understanding and appreciation of arts and culture is immense in building a new generation of self-reliant people with aesthetic sensibilities to meet the challenges of the present time. The language of arts is the oldest language in the world. Arts and culture have been a significant part of human life in all civilisations of the world from the cave age to the present day. The arts and culture-based way of life during the Renaissance gave a unique dimension to Europe. For the socio-economic development of Bangladesh, arts and culture play an important role in creating self-reliant new entrepreneurs with aesthetic sensibilities through the proper utilisation of domestic resources. A nation that loves its own culture respects other cultures. The curriculum framework emphasises building a new generation of sensitive, humane and tolerant people through arts and culture education as well as making them self-reliant with creative qualities.

Arts and culture are important means of making education enjoyable for learners as well as developing their aesthetic and human qualities through education. The proper development of children's creative thinking can also be assessed through the practice of arts and culture. The purpose of considering arts and culture as a learning area in this curriculum framework is to support the proper mental development of children by nurturing arts.

The learning area of Arts and Culture is presented as an integrated area where various creative genres of arts and culture (arts and crafts, dance, music, instrumental music, recitation, acting and literature) can be practised. This will enable the learner to grow and live life as an elegant person with good aesthetic taste and artistic sensibilities. Opportunities have also been created to consider creative capabilities in higher education, the world of work, or self-reliance, depending on the learner's wishes and needs. Arts and culture have been used as a medium to build friendly relations between learners of different classes and communities in different

parts of Bangladesh. Utilising artistic sensibilities to build good relations between the parents of the learners has also been considered.

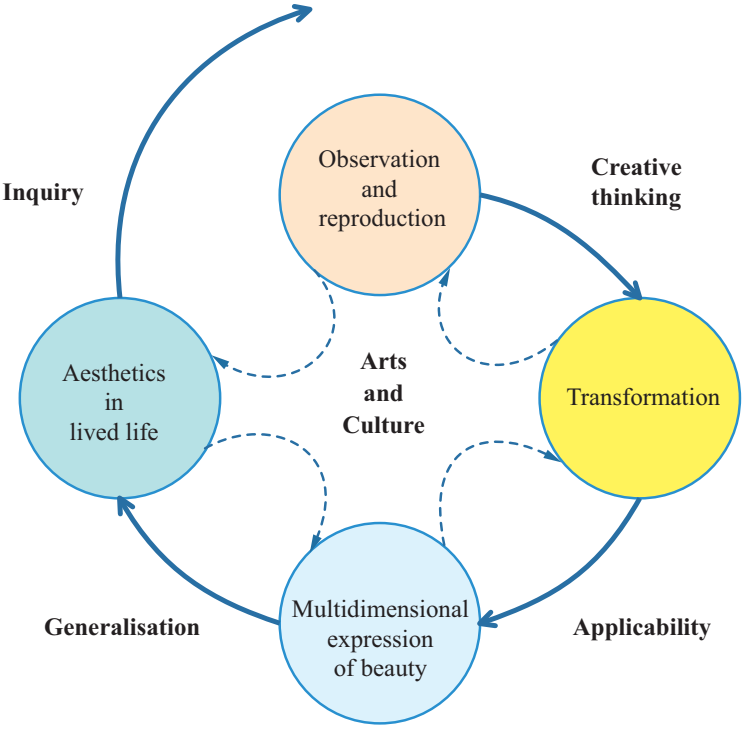
This has led to a continuity of creativity in the subject of Arts and Culture from pre-primary to secondary level, where pre-primary and primary levels are considered to be the foundation of arts and culture.

In this curriculum framework, the learning area of Arts and Culture is not confined to any fixed structures but is made dependent on nature, environment, society and culture. To this end, children are encouraged to practice arts and culture using folk and natural elements and materials. Arts and culture from pre-primary to secondary level, emphasises the imaginative and inquisitive mindset of children.

To help the learners grow with a liberal and sensitive mind and aesthetic sensibilities, the integrated learning of arts and culture is planned keeping in view the process of becoming self-reliant through an education system based on the studies of nature, arts and culture, as well as creative education of the contemporary world, the methods of which will be as follows:

Observing, perceiving, and replicating the diversity of nature and culture

To explore and perceive shape, size, colour, tone, rhythm, and so on as elements of art and to make copies and reproductions of them through observing and experiencing the diversity of nature and culture (by seeing, hearing, touching and feeling).



Transformation

To express oneself through aesthetic and creative transformation of the elements of art by observing and experiencing the diversity of nature and culture.

Multidimensional expression of beauty

To apply the idea of aesthetic and creative transformation and its competencies to everyday and specialist works in a multidimensional manner.

Beauty in lived experiences

To develop values, ethics and attitudes through beauty in lived experiences (nationality, global citizenship, environmental conservation, humanity, respect for diversity, creativity, and so on).

2.12
Secondary level (Grade 11–12)

An individual is not a separate entity situated outside the nature, environment, society, or culture around them, but a complete human being formed by the interaction of all these. Therefore, for the full development of the learner, education must be consistent with knowledge, skills, attitudes, values and ethics as well as career. In our traditional education system, the last stage of secondary level is Grades 11 and 12. Learners at this level are usually 16 to 18 years old. These two years are considered transitional in a learner's life as at the end of this stage, learners get the opportunity to take undergraduate or higher education programmes, and a large part of the learners enters the world of work. Therefore, for those who enter the undergraduate level or the world of work, the curriculum at this level will be designed in such a way that their acquired knowledge, skills and attitudes are compatible with higher education and the future world of work. Besides, the curriculum of Grades 11 and 12 will be formulated to achieve the objective of playing a positive role in personal and social life in the changing world.

2.12.1 Selecting the subjects for Grade 11–12

This level is considered the level of preparation for specialisation. At this level, some learners prepare I for higher education while others prepare to enter the world of work, depending on their preferences and situation. There will be multiple compulsory subjects at this level for all learners in order to achieve the objective of adapting to changing circumstances and playing a positive role in personal, social and global contexts. Each compulsory subject will reflect one or more learning areas identified in the curriculum framework.

Since the overall objective of the eleventh and twelfth grade learning is to prepare for specialisation, more emphasis should be given at this level to elective specialised subjects. The learner will be able to choose three specialised subjects according to their interests, abilities and future plans.

In order to motivate the learners to take up self-employment in accordance with the learning area of Life and Livelihood, applied subjects can be selected for acquiring professional skills and experience. Any one of the selected applied subjects can be chosen as an optional subject. In this regard, in the sixth to tenth grade Life and Livelihood subject, the issue of acquiring age-appropriate competencies and skills related to career planning is emphasised so that the learners can properly decide the subjects and paths according to their interests, wishes and abilities through future planning.

In view of the above, the subject selection process for Grades 11 and 12 is summarised below:

- **Compulsory subjects:** Three subjects decided based on multiple learning areas will be mandatory for all learners.
- **Elective subjects:** Subjects can be selected by leaving the elective and compulsory subjects of general, madrasah and technical education open or based on the context. From a set of selected subjects, a learner can be given the opportunity to choose any three subjects according to their interests and career planning.
- **Applied subjects (optional):** A learner can be given the opportunity to choose any one subject, according to their interests and career planning, from the subjects specified for gaining professional skills and experience.

2.12.2 Features and compositions of compulsory, elective and applied subjects for Grade 11–12

In Grades 11–12, three-fourths of the total weightage will be reserved for specialised subjects and one-fourth weightage for compulsory subjects. As specialised subjects will be prioritised at this stage, subject-wise learning competencies will be defined after determining the compositions of these subjects and the features and scopes of the compulsory subjects. There can be a combination of different learning areas in one or more compulsory subjects.

- Compulsory subjects can be developed not on the basis of a particular learning area, but rather as a combination of selected learning competencies of different learning areas. Whereas the focus of learning in grades up to Grade 10 is on certain learning areas and subjects, Grades 11 and 12 have more diverse subjects. The curriculum framework has therefore not defined the learning competencies for Grades 11 and 12 in subject- and grade-wise competency statements and learning continua. Subsequently, when the learning continua of these subjects are drawn, continuity of the acquired learning competencies in various learning areas up to Grade 10 should be maintained.
- In the case of elective subjects, a learner will be given the opportunity to choose any three subjects according to their interests and career plan. While formulating the learning competencies of an elective subject for Grades 11 and 12, the depth and scope of that subject should be worked out taking into account the acquired learning competencies in various learning areas up to Grade 10 and the pre-university competencies of that subject so that the learners can make logical adjustments with their prior knowledge, and there is consistency with subsequent higher education.
- Apart from compulsory and elective subjects, there will be optional applied subjects in Grades 11 and 12. The learner will have the opportunity to choose one of the subjects according to their interests and career plan from a set of applied subjects. While formulating the learning continua of the applied subjects, the scope and learning competencies of those subjects will be decided by taking into account acquired learning competencies of various learning areas up to Grade 10, especially of Life and Livelihood, skills prescribed

for employability in a related field, the latest advancements in information technology, the future demands of the world of work, and so on.

- It will take several years to implement the new curriculum in Grade 11 as per the plan. During that period, the subject-wise learning continua of all the subjects of Grade 11 and 12 will be drawn keeping in view the academic reality the subjects, and local and global needs and so on.

2.13

Learning time and its subjectwise distribution

In a competency-based curriculum, the main strategy of the teaching-learning activities is activity and experience-based learning which is not limited to the classroom teaching processes or time. Learners acquire the prescribed competencies through various activities and experiences in the classroom, school, home, and immediate environment. In order to ensure the smooth functioning of such a wide range of learning activities, there needs to have adequate learning time, that should go beyond the classroom hours. Learning time is defined differently in different countries. The UNESCO Glossary of Curriculum Terminology provides definitions and explanations of terminologies associated with learning time. For example, the contact period refers to the interaction time between teachers and learners engaged in active teaching-learning activities inside and outside the classroom. Instructional time refers to the amount of time during which learners receive direct learning support from a teacher in a classroom or a virtual context. And, learning time refers to the amount of time during which learners are actively working on a learning-related task or are effectively engaged in learning.[7] Since a learner in a competency-based curriculum has to go through a variety of experiences to acquire competencies, which may not always be inside the school, the curriculum framework considers the time associated with active learning inside and outside the classroom as learning time. A plan of learning time is given below by analysing the actual situation in terms of the time that the learner should spend on learning activities individually or collectively.

7 http://www.ibe.unesco.org/es/node/12011

Total leave = 76 days[8] + 104 days (Fridays and Saturdays) = 180 days

Total working days with two-day weekly holiday = 365 days - 180 days = 185 days [9]

Estimation of learning time based on two-day weekly holiday (Fridays and Saturdays)

Grade	Total learning hours
Pre-primary	500
1st - 3rd	630
4th - 5th	840
6th - 8th	1030
9th - 10th	1100
11th - 12th	1150

It should be noted that the average learning hours for Grades 1-5 in the OECD and its partner countries count to 799 hours while the average learning hours for Grades 6-8 are 919 hours. As per the above count, it is possible to allocate appropriate learning time even considering two days off in a week as in other countries of the world. The total number of working days is estimated to be 185 days after factoring in weekends and holidays. Educational institutions will remain closed on Fridays and Saturdays. Additionally, the five national days–Martyrs' and International Mother Language Day, the birthday of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman (also celebrated as the National Children's Day), the Independence and National Day, the National Mourning Day, and the Victory Day–are included as working days to observe them with due respect.

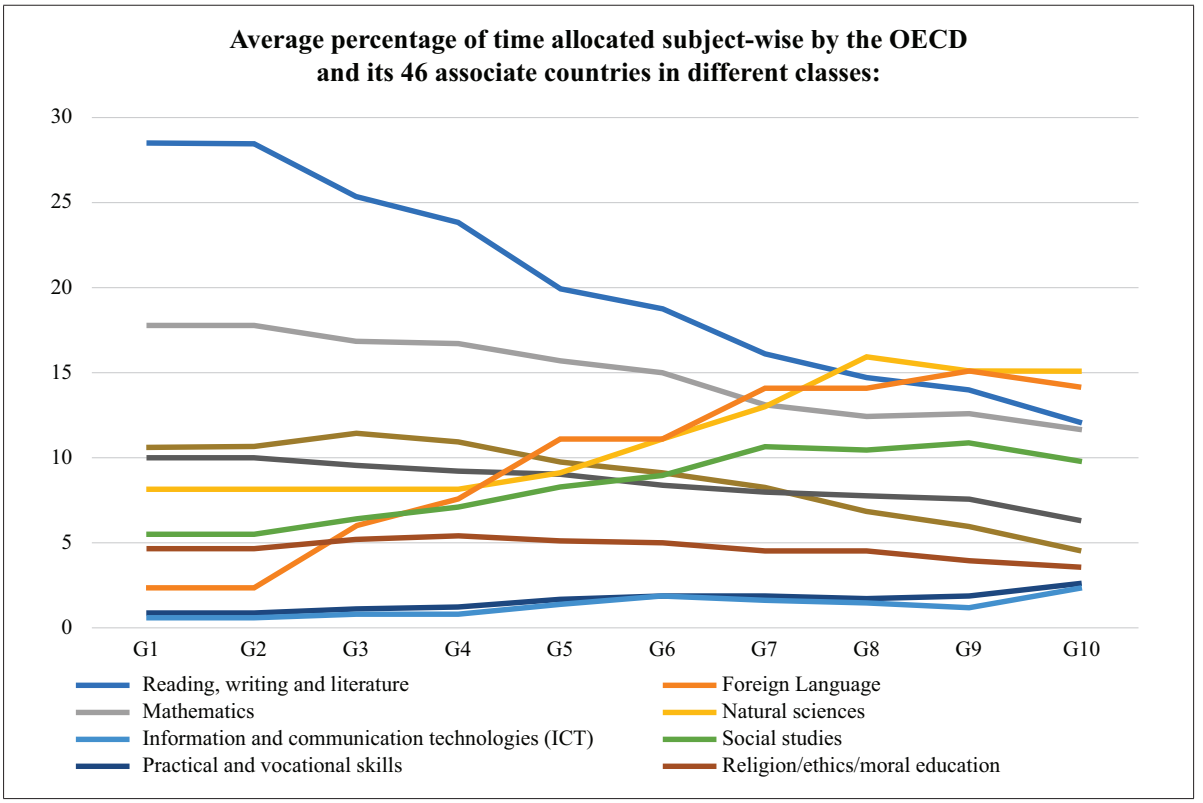
On average, the OECD and its partner countries have 185 school days per year and this average across 23 European countries is 181 days per year. The number of school days varies in different states of neighbouring India. For example, the average number in Meghalaya is 192 days per year while it is 200 days per year in Maharashtra. In this context, the proposed numbers of working days and learning hours, factoring in two days off per week, are fully in line with international standards.

8 http://www.dpe.gov.bd/sites/default/files/files/dpe.portal.gov.bd/notices/5545a07b_dc5d_460d_8b0c_fec2 e21be5d4/Class%20routine%20(revised)%20(1).pdf

9 The number of working days in a year is counted after factoring in altogether 104 days of Fridays and Saturdays and 76 days of annual holidays.

Subjectwise distribution of learning time

The graph below shows the percentage distribution of subject-wise total learning time for 46 OECD member and/or partner countries in Europe, Africa, America, Australia and Asia.



Source: Education at a Glance 2019; OECD INDICATORS.

As per the above graph, the OECD and its partner countries, on average, allocate 52% of the total learning time at the primary level to learning the first language, mathematics and arts. But, at the secondary level, 42% of the total learning time is allocated for learning the first language, a foreign language, and mathematics. By reviewing the way in which subject-wise learning time is allocated for different grades in different countries, considering the context of the subject-wise distribution of learning time in Bangladesh, and factoring in the needs of the proposed curriculum framework, the subject-wise distribution of learning time is outlined as follows:

Percentage of subjectwise learning time

Subject	Learning time (%) Pre-primary		Learning time (%) Primary					Learning time (%) Secondary						
	-2	-1	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
Bangla	25	25	28	28	28	20	20	18	16	15	14	12		
English			8	8	8	12	12	12	12	14	14	14		
Mathematics	20	20	18	18	18	16	16	15	13	12	12	12		
Science	10	10	10	10	10	14	14	14	14	15	14	15		
Digital Technology	Integrated in other subjects as crosscutting concepts.							5	5	5	5	5		
History and Social Sciences	10	10	10	10	10	12	12	12	13	13	13	15	25	25
Life and Livelihood	Integrated in other subjects as crosscutting concepts.							5	8	8	10	10		
Religion Studies	8	8	6	6	6	6	6	6	6	6	6	6		
Wellbeing	12	12	10	10	10	10	10	8	8	7	7	6		
Arts and Culture	15	15	10	10	10	10	10	5	5	5	5	5		
Specialised													75	75
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

* *At the pre-primary and primary levels, the expected competencies in Digital Technology are to be acquired through other subjects, including Mathematics and Science, and the expected competencies in Life and Livelihood will be acquired through other subjects, including History and Social Sciences and well-being. Thus, the learning times allotted for Digital Technology and Life and Livelihood are not shown separately.*

More time is allotted to children for learning the first language, mathematics, and arts and culture in the early stages of school, which is about 60% of the total learning time at the pre-primary level. About 56% of the learning time at the primary level is allotted for learning Bangla, mathematics, and arts and culture, while about 45% of the total learning time at the secondary level (in Grades 9-10) is allocated for learning English, History and Social Sciences, and Science.

Subjectwise distribution of total learning hours:

Subject	Learning time (hours) Pre-primary		Learning time (hours) Primary					Learning time (hours) Secondary						
	-2	-1	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
Bangla	125	125	176	176	176	168	168	185	165	155	154	132	288	288
English			50	50	50	101	101	124	124	144	154	154		
Mathematics	100	100	113	113	113	134	134	155	134	124	132	132		
Science	50	50	63	63	63	118	118	144	144	155	154	165		
Digital Technology	Integrated in other subjects as crosscutting concepts.							53	53	53	56	56		
History and Social Sciences	50	50	63	63	63	101	101	124	134	134	143	165		
Life and Livelihood	Integrated in other subjects as crosscutting concepts.							53	84	84	112	112		
Religion Studies	40	40	38	38	38	50	50	62	62	62	66	66		
Wellbeing	60	60	63	63	63	84	84	82	82	72	77	66		
Arts and Culture	75	75	63	63	63	84	84	52	52	52	55	55		
Specialised													862	862
Total	500	500	630	630	630	840	840	1030	1030	1030	1100	1100	1150	1150

* *At the pre-primary and primary levels, the expected competencies in Digital Technology are to be acquired through other subjects, including Mathematics and Science, and the expected competencies in Life and Livelihood will be acquired through other subjects, including History and Social Sciences and Well-being. Thus, the learning times allotted for Digital Technology and Life and Livelihood are not shown separately.*

In Grades 11 and 12, about 25% of the total learning time is allotted for the compulsory subjects and 75% of the learning time is allotted for three specialised elective subjects. In addition, the educational institution will allocate time separately for an optional applied subject under its own management.

Total learning time is specified for each level. The educational institution can utilise this learning time as per its needs. This learning time will also be used in acquiring competencies in subjects and learning areas that emphasise out-of-school contexts.

2.14
Teaching-learning strategies

In the post-renaissance modern period, the mass education system that was developed in Europe to meet the demand of the labour market as a result of the Industrial Revolution mainly served as the basis on which education systems around the world were transformed.[10] The idea of rote learning-based literacy that emerged in that education system did not attach much importance to the individuality of the learner. In that context, the behavioural teaching-learning approach emerged. Notable proponents of the behavioural teaching-learning approach were Pavlov, Thorndike, and Skinner (Fosnot, 1996). As per the behavioural teaching-learning approach, the questions of what to learn, how to learn, when to learn, where to learn, and why to learn should be decided in advance, and the learner's own thoughts, preferences or attitudes in this regard are of little importance (Glasersfeld, 1995 eds. Steffe & Gale, 1995). Behaviourism requires an increase in reward or punishment to ensure learners' desired learning (Fosnot, 1996). Similarly, it has to be decided in advance when, how, or how often the learning will be reflected in the learner's behaviour and how the acquisition of learning will be measured in learning assessments. This behavioural approach led to the introduction of a memorisation-based, written test-based, and marks-based assessment system, and a teacher-centred, one-way, theory-based teaching-learning process. In this process, the main responsibility of the teacher is to impart knowledge while the main responsibility of the learner is to memorise and reproduce that knowledge unchanged. This structured and rigid behavioural teaching-learning process is detrimental to the creativity of the learner and incapable of catering to the needs and potentials of the individual. The behavioural teaching-learning approach is quite effective to elicit predetermined mechanistic behavioural responses in a controlled environment; however, the acceptance of this approach has subsequently declined. Also, the learning process used to be determined by defining the level of proficiency of the learner at different stages of development, which was known as maturationism (Fosnot, 1996).

Studies on learning processes and the idea of experiential learning have brought about drastic changes in the teaching-learning processes. Acquiring knowledge alone is not enough, especially to adapt to today's fast-changing world, it is also important to acquire the skills, values, and attitudes to apply the acquired knowledge for adaptation to the environment. The objective of learning, therefore, is not to acquire exactly any pre-decided behaviour, rather it is through the learner's endless interaction with the environment that both the learner's characteristics and performances, and the elements of the environment change, and in this process, the learner acquires the knowledge, skills, attitudes and values necessary to adapt to the environment. This concept of the teaching-learning process is known as constructivism or cognitivism, which was pioneered by Jean Piaget.

10 Robinson K (2009) The element: how finding your passion changes everything. Penguin, New York

In its early stages, the concept of constructivism was influenced by maturationist views, thereby determining the course of learning according to the stages of development. Researchers later observed that pupils can even overcome the idea of maturationism if they are given an environment to solve problems through communication skills, creativity, thoughtfulness, experience and cooperation. This postmodern concept of learning is known as social constructivism. Its main proponent is Russian philosopher Lev Vygotsky (Richardson, 1997; Fosnot, 1996). According to this theory, instead of memorising knowledge, pupils will try to solve problems to adapt to the environment. In this regard, the teacher, instead of playing the role of a disseminator of knowledge, will play the role of a facilitator or mentor. As per this concept of the teaching-learning process, learners will practice project-based or problem-based learning, and instead of competing among themselves, they will practice collaborative learning. At the same time, taking into account the individual capabilities and needs of each learner, the questions of what, how, when, where and why to learn will be decided according to their own preferences and abilities. These are practised based on interpersonal communication with a combination of personal and self-motivated learning. Thus, this teaching-learning process is much more flexible and its assessment is not based on rote learning-based written tests, rather it is done by creating a full development portfolio with a multiplicity of capabilities and attitudes and multi-stakeholder participation.

Another theory, known as Bronfenbrenner's ecological systems, has been developed by analysing the human learning process based on the interactions between human beings and the environment. Besides, the use of digital technology has completely changed the concept of human learning. As a result, people no longer memorise knowledge or information for there is artificial intelligence, but rather try to find new ways to solve problems by verifying, synthesising and analysing information from different sources, creating new knowledge and skills to fill the gaps in the field of knowledge. The use of these technologies has led to the emergence of a new learning concept, known as connectivism, based on individual freedom in human learning (ensuring multi-dimensional flexibility in learning time, content, learning space, purpose and learning process according to the learner's aptitude and motivation) and interconnection between learners (Siemens, 2004). This curriculum framework adopts a social constructivist approach to the teaching-learning process as well as connectivism as the main learning concept and practical strategy, **with experiential learning at its core.** The processes and strategies that are practised in experiential learning include joyful learning, task-based or hands-on learning through the integrated use of the five senses, project-based, problem-based and challenge-based learning, collaborative learning, inquiry-based learning, a combination of self-directed individual, pair and group work learning, process and context-based learning rather than subject-based learning, uses of online learning, and so on.

The role of the teacher is also clearly defined to make experiential learning effective. The teacher will ensure a supportive, unified and inclusive learning environment for the learners to be motivated to learn. This will enable the learners to take responsibility for managing their own learning with confidence. The learning environment in the classroom will be learner-centred, democratic and collaborative. Learning activities will be tailored to each learner's social and cultural context, learning needs and competencies. Learners will move from surface learning to deep learning by addressing real challenges that will help them generalise their learning beyond certain contexts. In this learning process, the teacher will play the role of a facilitator to make the learners interested in reflective learning. Going beyond the traditional

roles, the teacher will become a co-learner in the classroom. They will also enrich themselves through reflective learning in keeping with the ever-changing context.

In experiential learning, the teacher plays the role of a facilitator and the learner an active participant. The teacher can encourage experiential learning in school and outside of school by taking into account the learner's interests, tendencies, and strengths. In this approach, learners can learn individually, or in pairs and groups. In classroom activities, the teacher may use any one or a combination of methods, if they want. In this learning process, the learner is given a real-life problem relevant to the subject and is asked to find ways to solve it and apply the solutions to gain hands-on experience. In addition, through the use of digital technology, the teacher, if needed, can ensure student learning based on individual freedom (ensuring multi-dimensional flexibility in learning time, content, learning site, purpose, and learning process as per the learner's inclinations and motivations) and learner interactions (via the Internet, social media, learning platforms). If necessary, the teacher can make a challenge for the learner to solve any issue related to the subject by specifying conditions and time limits. The learner can ensure learning by gaining hands-on experience in finding ways to overcome challenges keeping those conditions in mind. **It should be noted that every step of experiential learning involves the development of the learner's knowledge, skills, and attitudes. Subject-wise and interdisciplinary competencies can also be acquired by following a combination of one or more traditional learning strategies as per need, context and subject.**

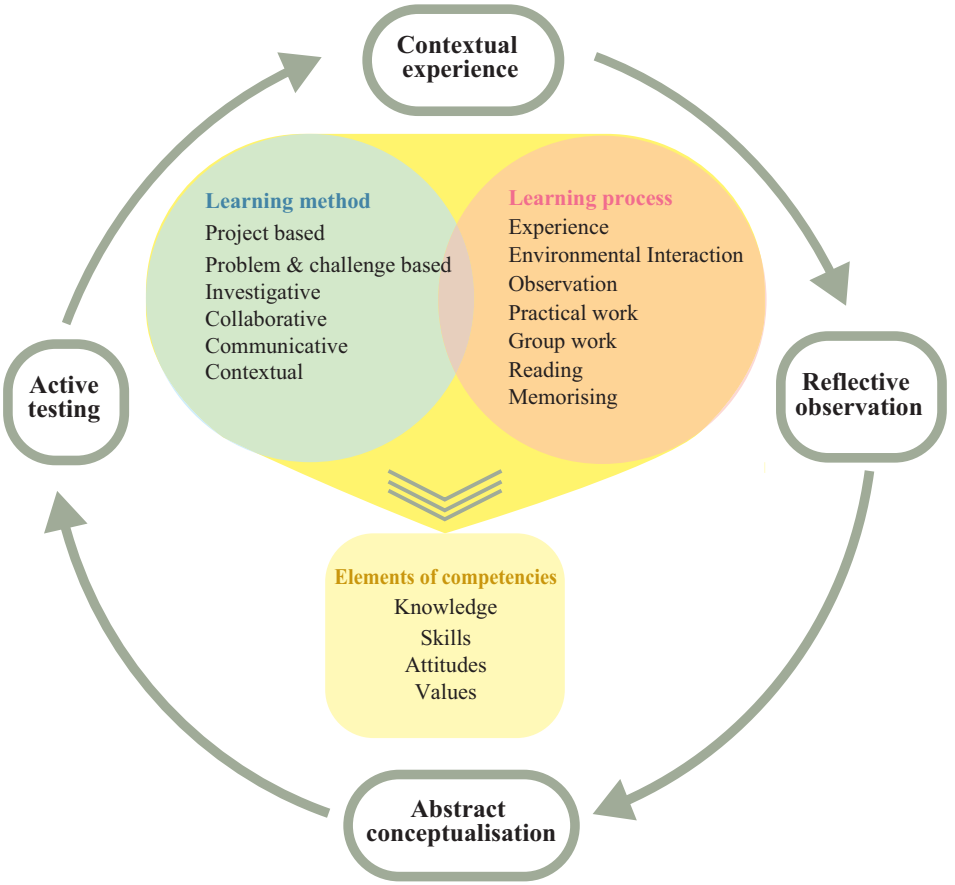


Figure: Multidimensional experiential learning

Education is not disconnected from society. Therefore, special emphasis has been laid on experiential learning in this curriculum. As a result, the teacher's responsibilities will not be limited to the classroom only. In order for the learner to continue learning through personal experiences in their own context, their family and even the community are engaged in the learning activities. Since the learning time outside the educational institution is also taken into account in determining the learning time in this curriculum, the learning experience plan considers not only the classroom engagement but also the engagement of the learner in personal, familial and social spheres outside the classroom.

According to the curriculum framework, the teaching-learning strategies for different levels and stages will depend on the learning needs, developmental stages, and interests of the learners. The teaching-learning strategies for pre-primary to Grade 3 will be mainly play and activity based and exploratory. Team teaching or block teaching will be encouraged. Learners will actively participate in learning through various games and activities and develop knowledge, skills, values, attitudes and consciousness with joy. The learning progress will mainly be ensured through formative assessments as part of the teaching-learning approach.

The scope of teaching-learning strategies for Grades 4-5 will be slightly broader and more integrated. In addition to playing and hands-on activities, special emphasis will be given to exploratory learning and problem-solving.

The teaching-learning strategies for Grades 6-8 will be more structured. Subject teachers will conduct classes on various subjects. In addition to using a variety of teaching-learning strategies in all classes, there will be arrangements for learners to practice high-level thinking skills through well-structured experiential teaching-learning strategies.

Subject specialist teachers will be ensured for each subject in Grades 11-12 to implement the teaching-learning strategies. The teaching-learning mechanisms will be mainly experiential. The teaching-learning strategies will be process-based rather than content-based. The teaching-learning strategies will use a combination of hands-on learning, project and problem-based learning, collaborative learning, exploratory learning, self-directed learning as well as online learning as per need and context.

A variety of learning strategies will be adopted in all classes, depending on the needs and context, keeping in view the objective of achieving certain competencies. Special attention will be given so that learners can complete their studies at school. Efforts will be made to complete the studies at school instead of traditional methods of homework. As part of experiential learning, however, there will be provisions for project-based learning or assignments to be practised at home or in social settings as needed.

2.15
Teaching-learning materials

The main vehicle for implementing the curriculum is teaching-learning materials. Learners acquire the competencies set out in the curriculum through the experience of appropriate use and application of the teaching-learning materials designed for learners and teachers. In this curriculum framework, teaching-learning materials refer to resource books, textbooks, reference books, supplementary reading materials, stories and rhyming books, charts, cards, models for learners and guides for teachers. Locally acquired materials, elements of the surrounding environment and so on will also be used as teaching-learning materials. To inculcate in the learners the habit of reading, a list of selected age-appropriate books will be prepared for each class, and the books will be available around the year for all the learners of that class. These books can be kept in the school library from where the pupils can borrow them for a specified period of time.

Pre-primary: The main teaching-learning material for the pre-primary level is the teacher's guide. Since learners at this level cannot read or write, detailed instructions for acquiring all pre-primary competencies will be provided in the teacher's guide. Learners will acquire the competencies prescribed for this level by gaining learning experiences through play and activity as per the instructions given in the teacher's guide. Besides the teacher's guide, workbooks, story and rhyme books, charts, cards, model development, toys and other materials, and audio-visual content will be used for the learners.

Primary (Grade 1-3): One of the main objectives of this level is to ensure that children learn to read, write, and explore. Since learners at this level do not acquire the skills required to study on their own, the main teaching-learning material at this level is the teacher's guide. Learners will acquire the relevant competencies through play, activity and experience as per the instructions given in the teacher's guide. Besides the teacher's guides on various subjects, workbooks, textbooks, supplementary reading materials, development of charts and cards, toys, audio-visual content and other materials will be introduced for the learners according to their abilities. Familial and social spaces and contexts will also be considered important factors in the learning experience.

Primary (Grade 4-5): Since learners at this level can read and write on their own, there will be textbooks and supplementary reading materials for them. Since learning experience is the key to learning in competency-based education, the teacher's guide is also important. While textbooks are helpful, learners need to go through certain experiences and hands-on work as well as deal with different situations to develop their skills, values, and attitudes. Teacher's guides will be available for teachers to guide learners through relevant learning experiences as per learning needs and interests. The environment around the learner will be a key element in achieving the learning experiences. In addition, local materials, including the development of supporting books, supplementary reading materials, charts and cards as well as audio-visual

content, familial and social environments will be used as learning elements or materials, as and when required.

Secondary: There will be textbooks and reading materials for secondary-level learners. For learners to acquire the desired skills, values, and attitudes of the curriculum framework, there will be teacher's guides for teachers to guide the learners through relevant learning experiences as per their learning needs and interests. As the learners will learn through experiential learning, the elements of their own local environment will be used as the main learning material. Apart from this, supporting books, supplementary reading materials, charts, cards and audio-visual materials will be developed and introduced, as and when required. The family, school, and social environment will play an important role in achieving the learning experiences.

2.16
Assessment and reporting system

2.16.1 Features of learning assessment

Assessment is an essential and integral part of the curriculum. This curriculum framework does not limit assessment to the assessment of student learning but also emphasises the assessment of the effectiveness of the entire education system and the assessment of the learning environment. The scope of assessment has been broadened to include different levels of knowledge, skills, values, attitudes and cognitive development of the learners through a comprehensive reform of the existing assessment system, moving away from the memorisation-based examination system. Competencies will be the basis of all types of learning assessments.

Learning assessment

The degree of success in achieving the curriculum objectives largely depends on the assessment strategy being used to measure learning progress and how the data obtained from the assessment is being used to inform decision-making at various levels. In this postmodern age of learning, the social constructivist approach stands in contrast to traditional modes of assessment. Another important aspect of a competency-based curriculum is to measure competencies by considering the interrelationships between knowledge, skills, values, and attitudes. It is therefore important to evaluate the capabilities acquired through the interaction of knowledge, skills, values and attitudes rather than assessing them separately. The assessment strategies set out in the curriculum framework as per the theory of planned behaviour (Icek

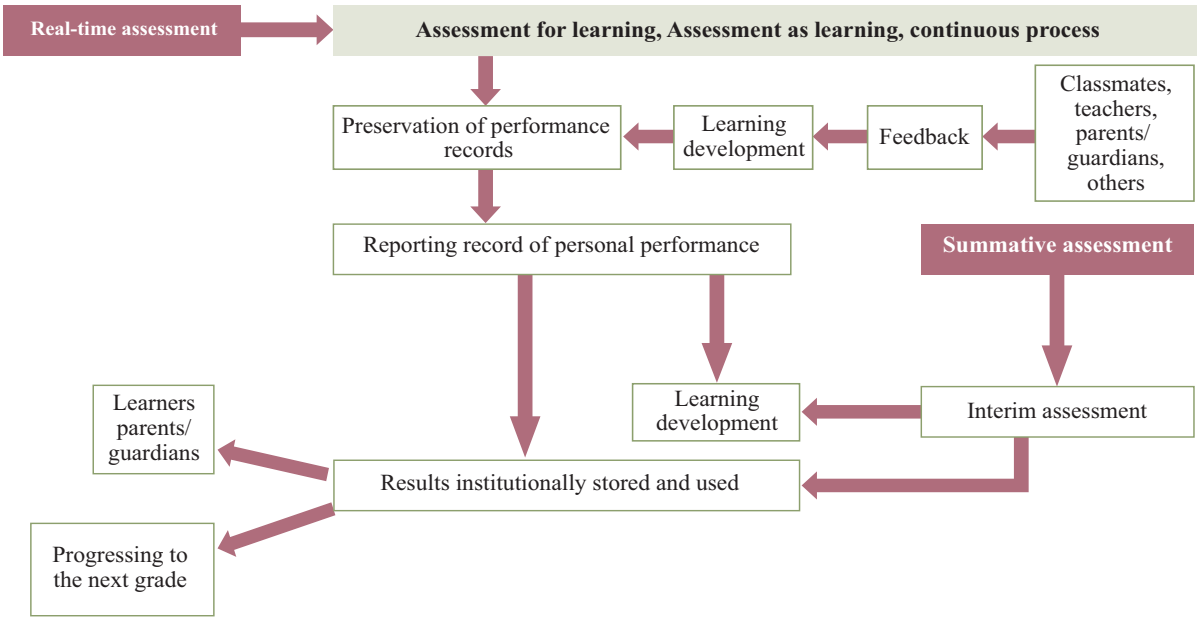
Ajzen, 1991) are as follows: multidimensional modes of assessment with emphasis on Real-time assessment, assessment for learning, assessment as learning, observation, reflection-based and process-based assessment, continuous assessment, peer assessment, stakeholder assessment, use of technology in assessment (apps), consideration of knowledge, skills and attitudes in assessment, and providing positive feedback.

The following assessment points are to be followed in this curriculum:

- Emphasis on real-time assessment for learning;
- Reduction of examination-centric summative assessment;
- Implementation of alternative assessment processes (self-assessment, peer or group assessment, and so on);
- Validation of the assessment of competencies;
- Adhering to the basic principles of assessment;
- Continuous record keeping and management of assessments.

The assessment mechanism planned in the curriculum is illustrated below–

Assessment



2.16.2 Levelwise assessment mechanism

A summary of the levelwise assessment mechanism is given below:

<table>
<tr><th rowspan="2">Pre-primary</th><th colspan="2">Primary</th><th colspan="3">Secondary</th></tr>
<tr><th>1st - 3rd grade</th><th>4th - 5th grade</th><th>6th - 8th grade</th><th>9th - 10th grade</th><th>11th - 12th grade</th></tr>
<tr><td rowspan="3">Real-time assessment (100%)</td><td rowspan="3">Real-time assessment (100%)</td><td rowspan="2">Bangla, English, Mathematics, Science, History and Social Sciences, Wellbeing, Religion Studies, Arts and Culture

Real-time assessment 60%
Summative assessment 40%</td><td rowspan="2">Bangla, English, Mathematics, Science, History and Social Sciences, Life and Livelihood, Digital Technology, Wellbeing, Religion Studies, Arts and Culture
Real-time assessment 60%
Summative assessment 40%</td><td rowspan="2">Bangla, English, Mathematics, Science, History and Social Sciences, Life and Livelihood, Digital Technology, Wellbeing, Religion Studies, Arts and Culture
Real-time assessment 50%
Summative assessment 50%</td><td>Compulsory subjects:
Real-time assessment: 30%
Summative assessment: 70%</td></tr>
<tr><td>Elective/ specialised subjects:
As per framework and conceptualisation, there will be scope for summative assessment as well as Real-time assessment in project-based, practical and other forms;
Applied subjects:
Real-time assessment: 100%</td></tr>
<tr><td colspan="2"></td><td>Public examinations at the end of Grade 10 to assess competencies of Grade 10</td><td>Examinations at the end of every year on the curriculum of Grades 11 and 12. The final results will be calculated on the basis of the combined results of the Grade 11 and 12 examinations.</td></tr>
</table>

Learner assessment is a combination of real-time and summative assessments. More emphasis is given to real-time assessment in the early grades and then the emphasis gradually shifts to summative assessment in the upper grades.

Public examinations

A system of assessments consistent with the curriculum is required to ensure student learning. It is important to set appropriate public examination systems as part of the assessment system. Studies around the world have shown that the washback effect of examination systems has a negative impact on the learning achievements of the curriculum, teaching-learning methods, and learning culture.[11] Rather than learning, getting higher marks in examinations may

11 Asifa Abbas and Sahiba Sarwar Thaheem, "Washback Impact on Teachers' Instruction Resulting from Students' Apathy", Research on Humanities and Social Sciences, ISSN 2224-5766 (Paper) ISSN 2225-0484 (Online), Vol.8, No.6, 2018

Lynda Taylor, Washback and impact, ELT Journal Volume 59/2 April 2005 Q Oxford University Press.

become the main objective. Competencies are defined in the curriculum as a combination of knowledge, skills, attitudes, and values. Traditional examination systems generally assess low levels of cognitive development of the learner. Thus, the main objective of the curriculum, that is, the learner acquiring knowledge as well as skills, attitudes and values, will not be materialised by retaining the traditional public examination systems. Therefore, in addition to the summative assessment in public examinations, arrangements are put in place for real-time assessment.

According to the curriculum framework:

- Public examinations will be held at the end of Grade 10 to assess Grade 10 competencies.
- Public examinations will be held at the end of Grades 11 and 12. However, the final results will be calculated on the basis of the combined results of the Grade 11 and 12 examinations.

Public examination at the end of Grade 10

Learners will be assessed based on both summative assessment and real-time assessment in all ten subjects in Grade 10 (Bangla, English, Mathematics, History and Social Sciences, Science, Life and Livelihood, Digital Technology, Well-being, Religion Studies, and Arts and culture).

Subjects	Formative assessment	Summative assessment
Bangla, English, Mathematics, History and Social Sciences, Science, Life and Livelihood, Digital Technology, Wellbeing, Religion Studies, and Arts and culture	50%	50%

Public examinations at the end of Grade 11 and 12

- There will be 30% real-time assessment and 70% summative assessment in three compulsory subjects;
- There will be scopes for real-time assessment based on assignments, project-based tasks, practical and other means alongside summative assessment as per subject structure and conceptualisation of three elective/ specialised subjects;
- Real-time assessment will be done through hands-on tasks on an applied subject or elective subjects.

Lynda Taylor, Washback and impact, ELT Journal Volume 59/2 April 2005 Q Oxford University Press. doi:10.1093/eltj/cci030

Tsagari D., Cheng L. (2017) Washback, Impact, and Consequences Revisited. In: Shohamy E., Or I., May S. (eds) Language Testing and Assessment. Encyclopedia of Language and Education (3rd ed.). Springer, Cham. https://doi.org/10.1007/978-3-319-02261-1_24

2.16.3 Basic principles of learning assessment

- The foundation of any kind of assessment is competency. Knowledge, skills, attitudes and values need to be properly assessed. However, assessment should be planned considering the interconnectedness of knowledge, skills, attitudes and values rather than considering them in isolation.
- Competency-based assessment needs to be ensured through the proper application of various assessment strategies and methods. The assessment strategies need to be set considering the purpose of the assessment while the assessment methods need to be fixed based on what needs to be assessed. Instead of relying solely on paper and pencil tests, assessment can involve observation, portfolio, reflective and process-based assessment, continuous assessment, peer assessment, stakeholder assessment, and technology in assessment (apps).
- Recognition for the various achievements of the learner, inside and outside the classroom, as well as necessary advice and support for the development of their full potential and the elimination of weaknesses.
- Formative assessment needs to be conducted in a completely informal process. Formative assessment should be practised as part of teaching-learning activities.
- Assessment records must be properly preserved. However, the purpose of assessment is to ensure learning progress rather than record keeping.
- Assessment strategies should be designed to ensure that their results are objective. For this, peer assessment, self-assessment, portfolio preservation and other relevant methods can be followed.

2.16.4 Certification or reporting

Descriptive certificates or report cards of proficiency will be introduced in place of the traditional marks-based certificates or report cards. Report cards will reflect the progress made by the learner in acquiring class wise expected-competencies. The status of the development of knowledge, skills, attitudes and values will also be mentioned in the report cards. A good relationship between the educational institution and the family is formed primarily through report cards. The educational institution and the family can jointly make efforts for the learner to achieve the learning outcomes based on the report cards. The class teacher will show the report card directly to the parent and discuss the achievements and development directions of the learner. A similar procedure will be followed for public examinations. The report cards of public examinations will also reflect, through formative and summative assessments, the progress made by the learner in developing expected competencies. The institution's own learner assessment report cards and the public examination report cards will be prepared and issued in a completely new format in coordination with the relevant institutions. A system-based assessment and reporting process needs to be put in place through the use of technology

to ensure impartiality in evaluation and reporting.

In addition to issuing certificates of proficiency in interim and public examinations, certificates of proficiency may also be issued after certain competencies and skills are acquired or at the end of certain chapters, classwork or events.

2.16.5 Assessment of learning environment

In a competency-based education system, the learning environment is a key component for the learners to acquire learning competencies. Progress in learning depends, not only on teaching-learning materials, teachers, and teaching-learning processes, but also on the environment in which the learning activities are conducted. Therefore, along with progress in learning, assessment of the learning environment is particularly important for the successful implementation of the curriculum.

This curriculum framework has given due importance to the assessment of the learning environment along with the assessment of learning progress. In this regard, the relevant directorates, offices and organisations will undertake regular assessments of the learning environment. Following a proper review of the findings of the assessment of the learning environment, efforts will be made to ensure a conducive learning environment for the implementation of this curriculum.

2.16.6 Assessment of education system

For the successful implementation of the curriculum, the assessment of the entire education system is as important as the assessment of learning progress. This assessment enables the country to identify the progress it has made in its education system. An analysis of the overall situation of the education system helps identify the areas where steps need to be taken for improvement. In this case, national sample assessments are used to test the competencies of the learners. In the existing system, the National Students Assessment (NSA) at the primary level and the Learning Assessment of Secondary Institutions (LASI) at the secondary level have been in place since 2002 and 2013 respectively to monitor the learning progress at the national level by assessing the acquisition of learning based on the learning outcomes defined in the curriculum.

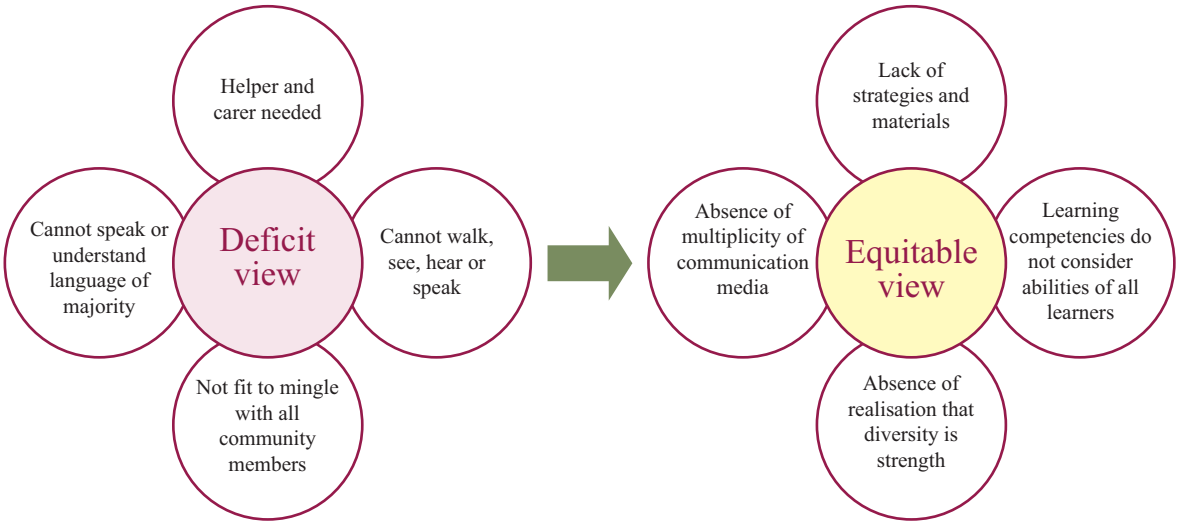
This curriculum framework lays special emphasis on a competency-based assessment of learners at the national level as part of the assessment of the education system.

> The National Curriculum and Textbook Board (NCTB) will develop and implement a national assessment strategy and plan involving institutions and experts associated with assessment and curriculum development.

2.17 Inclusiveness and gender sensitivity in curriculum

2.17.1 Inclusiveness in curriculum

There are two types of views in the global practices of inclusiveness: the deficit view and the equitable view. In explaining the challenges of learning, the deficit view finds the challenge within the learner. Examples of such challenges include: the learner coming from an unwelcoming socio-economic background; the learner's mother tongue being different; or the learner not being able to walk, talk, see or hear. Such challenges can be moderate, serious, or severe. As a result, the learner needs helpers and caregivers. In contrast, as per the equitable view, the challenges of learning are placed not on the learner but on the constraints of the education system and structure: for example, assigned learning competencies do not take into account the abilities of all learners, limitations of teachers' abilities, absence of multidimensional communication strategies, and lack of materials. Thus, according to this view, the overall structure is tailored to the needs and tendencies of the learners, taking into account the constraints of the education system (Ahsan et al., 2012). The figure below (Source: Integrated Education Working Paper Series-1, ACIE, 2017) provides a comparative analysis of the two views:



Deficit view consider -Problem lies within the learner

Equitable view consider - Problem lies in systemic limitations

This curriculum framework adopts an equitable view of inclusiveness. In light of this view, there is a great need for a paradigm shift in thinking about gender and inclusion in the curriculum framework, conceptualisation, deciding target groups for gender and inclusion, programme planning, indicator setting, and overall perceptions. The objective is to transition from a constrained view to a justifiable one in the various elements of the curriculum framework. It is explained in more detail below (ACIE, 2017; Ainscow, 2005; DPE, 2011):

At the thought processing level:	Gender and inclusion in education is not a choice but human rights and legal obligation.
At the conceptual level:	Gender and inclusion in education is not a separate system to in-clude those excluded from education, but a structural, environmental and systemic change to include all.
Deciding target groups:	Gender and inclusion in education are not for any pre-decided group but for all children who are discriminated against (in and out of education).
In programme planning:	Gender and inclusion in education are not about serving a particular group separately but about addressing the individual and collective needs of all through empowerment and systemic change.
Indicator setting:	Gender and inclusion in education are not just about ensuring access to education but also about active participation, acquisition of com-petencies and ensuring acceptance.
In overall perception:	Gender and inclusion in education is not an isolated step but a holistic reform of education.

An important feature of the curriculum framework is that it is flexible, sensitive and competency-based, and thus it is inclusion-friendly. Keeping in view the learning needs, abilities and characteristics of the highly talented children, this curriculum also considers accommodating accelerated learning practices through various initiatives, which will enable the learner to move ahead rapidly with the learning activities in a particular subject as per their strengths, overcoming age barriers. The scope of multidimensionality, simplification or flexibility (curriculum differentiation) of the curriculum and its implementation process has also been considered, keeping in view the special needs of any learner, including learners with special needs. It should be noted that in this curriculum framework, the learning time not only covers the time spent in school but also takes into account the learning that takes place in the learner's family, neighbourhood, games and sports. This has created an opportunity to practice multidimensionality in the curriculum, keeping in view the individual needs of the learners.

Special care needs to be taken when utilising child diversity in teaching materials or teacher's guide or when presenting it in the classroom. Children with special needs are socially called special children or golden children. According to the Convention on the Rights of Persons with Disabilities (2006), disability is considered a part of human diversity, and the acceptance of a person's disability underlies the individual's human dignity and rights. In its definition of disability, the UNCRPD (2006) refers to the person before disability in English (for example, 'person with disability'), highlighting the right to recognition as a person, but it cannot be followed in Bangla. In Bangladesh, the Persons with Disabilities Rights And Protection Act 2013 (MoLPA, 2013) and the Protection of Persons with Neuro-Developmental Disability Trust Act 2013 (MoLPA, 2013a) provide guidance on identifying persons with disabilities. It may, however, be noted that in a learning environment, children need not be identified according to the degree of disability (for example, mild, moderate, severe and so on). Overall, children need to be identified according to their learning abilities and learning needs (for example, mild support, medium support, and greater support) in order to measure how much support the education system is able to provide instead of the children's abilities. Similarly, care should also be taken to ensure that the children can gain acceptance of their own gender identity (boy, girl, transgender), access the education system, and learn through active participation. The social construct should be used in teaching materials, teacher's guides, presented in the learning environment, and in the classroom in a gender-sensitive manner so that learners become aware of gender sensitivity and transformation through positive practices.

By encouraging a child's strengths using the concept of multiple intelligences (Gardner, 1983), there are opportunities for intervention in areas of their intelligence that need more attention. In other words, the diversity of capabilities, needs and characteristics of children irrespective of gender, religion, caste, disability, and social and geographical location has been seriously considered in the development and implementation of this curriculum. In view of this seriousness, special measures are also recommended to ensure the inclusion of certain target groups. For example, provision of accessibility, communication skills, Braille and so on for children with disabilities and neurodevelopmental disability (NDD), taking necessary initiatives for mother tongue-based learning for ethnic groups, taking measures to ensure access to education for underprivileged children, ensuring access to education for transgender children, and finding alternative flexible ways to access education for disadvantaged children, including for the continuation of education in times of disasters. It is important to remember that the special measures should not create a parallel stream, but instead create opportunities for temporary collaboration for a period of time before mainstream participation.

To make the different stages of curriculum development, including teaching-learning methods, assessment, development of learning materials, teacher training, and implementation at the classroom level, gender-sensitive and inclusion-friendly, a technical guide will be developed, through which necessary steps will be taken. While preparing this guide, international standards that facilitate learning will be considered; for example, as per UNCRPD (2006), all education systems should create learning environments in line with the Universal Design for Learning (UDL).

2.17.2 Gender transformative approach in curriculum

While gender is not a new discussion topic in this curriculum, the formulation and implementation of this curriculum require a fresh look at the prevalent gender approach.

It has been discussed many times that in this competency-based curriculum, learners need to acquire not only knowledge but also skills, values and attitudes. And the onus of achieving the competencies lies on the learners themselves; teachers or the environment will only play a facilitating role. This curriculum framework repeatedly states how the role of the learner will change — they will question rather than merely follow the prevailing norms and values of society and be active in bringing about positive change in society by eliminating all forms of discrimination. It is difficult to prepare learners for this role with the prevalent gender-sensitive approach. Therefore, a gender transformative approach has been adopted in this curriculum, through which every learner irrespective of gender will not only be able to grow equally but also learn to question the existing power structure, and take steps to find and eliminate discriminatory elements from their family and environment.

What is primarily needed in order to implement this approach is creating opportunities for all learners irrespective of gender to express themselves without hesitation. The main objective of adopting this approach is to enable people across the gender spectrum (female, male, transgender, and so on) to participate in learning activities without discrimination, to acquire skills as per their abilities, and to gain the ability to make their own decisions.

As this curriculum emphasises experiential learning, the learners are no longer confined to the classroom, rather they also learn from practical and meaningful experiences in their own family and community. Therefore, these learning experiences will be designed in such a way that the learners can through various activities get the opportunity to interact with different stakeholders of their spheres as well as to challenge the gender inequalities prevailing in society.

Requirements for implementation of this approach:

- Special emphasis needs to be given to the training of teachers. Teachers must be given the necessary support to enable them to identify the elements of discrimination in their own subconscious and to consciously try to get rid of those elements.
- When planning learning experiences for the learners, care should be taken to ensure gender identity does not create barriers to these experiences. Learning experiences should also be designed in such a way that they naturally challenge the prevailing gender stereotypes and gender division of labour in society.
- It is important to ensure that the learning environments and infrastructural facilities at schools are conducive to all gender identities.
- A system of regular and meaningful communication between teachers, learners, parents and other stakeholders should be in place, which can help build a gender-transformative society by facilitating cooperation between various stakeholders.

2.18
Coordination with the technical and vocational education and training stream

A skilled human resource force is an essential component of national development. New discoveries and inventions in science and technology are rapidly changing development strategies and methods worldwide. Developing countries are constantly facing unequal and unfriendly competition in international trade, transport, marketing of manufactured goods, sending skilled human resources to overseas employment, and connectivity. In order to create opportunities for economic development in this unequal competition, Bangladesh, as a developing country, needs to attach special importance to the rapid transformation of learners into skilled human resources through vocational education. As the demand for skilled human resources within the country is increasing, so is the demand for skilled human resources abroad, and this demand will increase in future.

In view of national and international priorities, it is necessary to incorporate and reflect in all education streams foundational, transferable and job-related skills to prepare the learners for life and livelihood by tackling the challenges of the 21st century. Besides, organised guidance is also needed so that learners of any education stream can be supported appropriately to access their desired education stream by changing their pathway as per their location, qualification, skills and context. To this end, for Grades 1-12 or equivalent in general, madrasah and technical education streams, proper inclusion and reflections of foundational and transferable skills have been made in an integrated and systematic manner at all levels and grades.

The National Education Policy has given special directions to increase the dignity of labour along with creating opportunities for economic development by adapting the technical and vocational education and training in Bangladesh to the national and global context and demand. Keeping in view the demand of the national and international job markets, the education policy has also provided directions to take initiatives to utilise technical and vocational education and training for rapid human resource creation, massive employment generation, and foreign exchange earnings through the export of skilled human resource, thus increasing national income. To this end, the education policy has also suggested the development of a modern curriculum for technical and vocational education and training and its coordination with other education streams. An analysis of the National Education Policy, the National Skills Development Policy, and the Bangladesh National Qualifications Framework provides the following directions, in line with the evolving job market, to develop human resources, to acquire skills necessary for survival in the future labour market, to increase the social status of this education stream, and to create opportunities for higher education and jobs:

- Inclusion of pre-vocational and information and communication technology (digital technology) education from the primary level in all education streams with the aim of developing skilled human resources.
- Learners successfully graduated from Grade 8 to get the opportunity to enter the technical education stream and then to access higher education in their chosen technical field.
- Learners at any level of general and madrasah education streams to get the opportunity to obtain the National Skill Certificate to an early skill level of the selected occupation as per the National Technical and Vocational Qualifications Framework or the Bangladesh National Qualifications Framework after completing vocational training in institutions registered with the Bangladesh Technical Education Board (BTEB); learners also to get the opportunity to progress to upper levels with further training and to return to institutional education in the technical stream.
- Learners completing Grades 9, 10, 11 and 12 in the technical and vocational education stream to get the opportunity to obtain the National Skill Certificate to an approved skill level of the occupation as per the National Technical and Vocational Qualifications Framework.
- Some foundational subjects are compulsory in every education stream and other subjects are incorporated by maintaining the distinctiveness and ideal standards of each stream;
- To ensure the learners acquire the skills for the technical education trades of secondary and higher secondary levels, the occupation levels should be set as per the Bangladesh National Qualifications Framework, and there should have the opportunity to obtain dual certification: the National Skill Certificate along with the educational qualification certificate.

In addition to the above guidelines, a review of the BANBEIS 2019 report shows that about 38% of learners in Grade 6 drop out of the education system before completing Grade 10, and about 20% of learners at higher secondary level drop out before completing Grade 12. Most of these learners eventually enter the job market as unskilled workers. On the other hand, many learners who cannot or do not pursue higher education after completing higher secondary also enter the job market without any vocational training or skills.

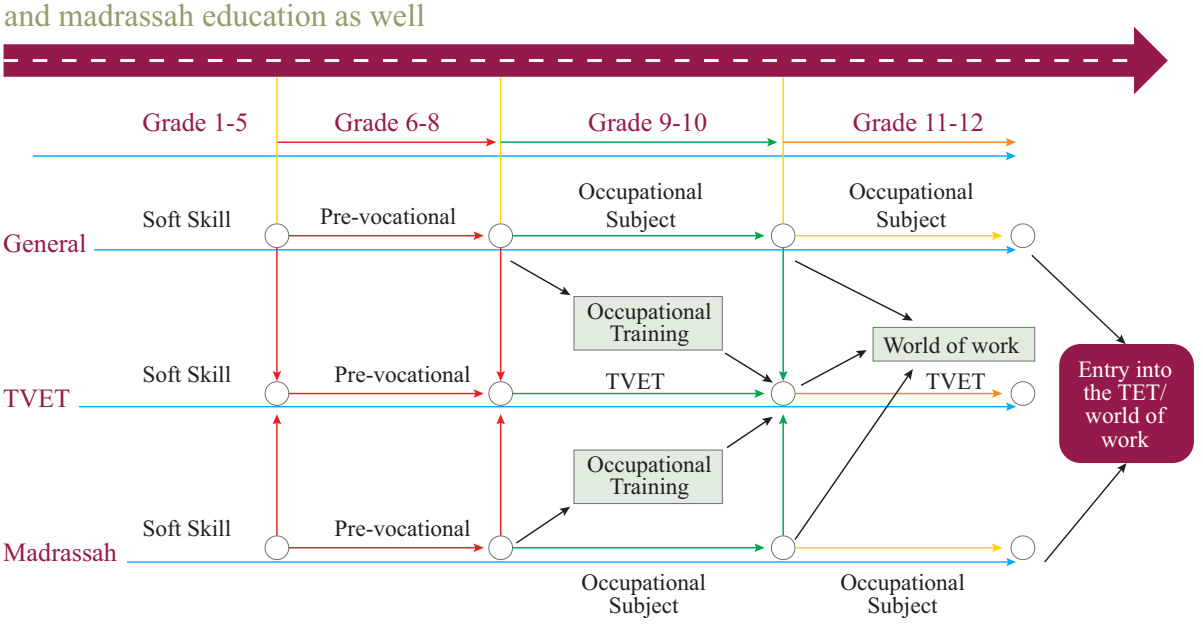
Considering this, there will be an occupational course under the Life and Livelihood subject in Grades 9-10 in general and madrasah education streams, through which the learners will be prepared for a specific occupation. When completing Grade 10, the learners will have gained the competencies required to enter professions related to occupational skills and will be able to join the professions, if necessary. The occupational course will be designed to enable the learners to take up self-employment or to join an age-appropriate job as per the demand of the labour market. A list of occupational categories will be prepared considering the proportionate contribution of services, agricultural and industrial sectors (40.61% : 37.75% : 21.65%)[12] to the national labour market. Depending on the demand of the local or regional economic sector and labour market, the categories of occupations will be determined for schools in different regions. New occupations will be formulated and implemented through regular systematic labour market surveys.

In view of the above, an outline of the inclusion of technical and vocational education and

12 https://www.statista.com/statistics/438360/employment-by-economic-sector-in-bangladesh/#:~:text=The%20statistic%20shows%20the%20distribution,percent%20in%20the%20service%20sector.

training (TEVT) courses in general and madrasah education streams, from primary to secondary levels as per the National Technical and Vocational Qualifications Framework, is given below. This outline was formulated in consultation with the Bangladesh Technical Education Board and related stakeholders, in the light of strategies defined in the National Education Policy and the National Skills Development Policy and the experience of implementing the National Technical and Vocational Qualifications Framework. A roadmap for education and training is also presented displaying opportunities to interchange in Grades 6-12 between the TVET stream and other streams.

Inclusion of technical and vocational education and training (TVET) subjects in general and madrassah education as well



While Grades 6-8 in general and madrasah education streams include a pre-vocational course under the Life and Livelihood discipline, its scope is widened in the technical education stream with hands-on practices. By formulating an equivalency framework, the learners will be able to interchange between technical education, madrasah education and general education streams.

The recommendations, reflecting relevant policy guidelines and taking into account the national and global situation and demand, are incorporated as follows in the afore-mentioned framework:

1. Arrangements have been made so that learners who have passed Grades 8 and 10 of general and madrasah education streams can be admitted to the TVET stream.
2. Initiatives have been taken to accommodate pre-vocational and occupational courses in general and madrasah education streams in such a way that both these streams can be considered TVET inclusive education streams.
3. In keeping with the national and global standards of skills, and in accordance with the distinct and defined structure of the technical education stream, the curriculum framework envisages inclusiveness by integrating core subjects to acquire the 10 core competencies attainable for all, which will help bridge inter-stream gaps and create opportunities for interchanging the streams through an appropriate equivalency framework.

4. After completing SSC, SSC (Vocational) or equivalent courses, the learners will have the opportunity to be admitted to the 4-year diploma courses.
5. As part of the formative and summative assessments, there will be scope for project-based, theoretical, practical, and other types of assessments as per the structure and conceptualisation of technical education stream courses. In this stream, public examinations will be held only for technical subjects at the end of Grade 9 and public examinations for all subjects at the end of Grade 10. Public examinations in all subjects will be held at the end of Grades 11 and 12.
6. Time will be allocated rationally to the subjects as per the demand of the 10 subjects mentioned in the curriculum framework and the technical subjects of the technical education stream.
7. The TVET education stream will include a subject on basic concepts of vocational-technical education for Grades 6-8 along with pre-vocational subjects.

2.19 Coordination with madrasah education Stream

Madrasah education is one of the oldest streams of education in the subcontinent. In Bangladesh, it is an independent stream with its own characteristics. To maintain these characteristics, the madrasah education stream is designed in accordance with the basic structure of the National Curriculum Framework. For this purpose, special characteristics of the madrasah education stream are included in this section. Note that aspects similar to the general education stream are also taken into consideration in the development of the madrasah curriculum.

2.19.1 Foundations of madrasah education curriculum revision and development

In a rapidly changing world and the era of globalisation, opportunities and possibilities have been generalised, and so have the challenges and obstacles faced by all. Without minimum required skills, it is quite impossible to deal with all these challenges and obstacles. Moreover, due to the multifaceted nature of change, learners of all streams have to acquire some minimum common competencies to keep themselves ready to adapt and stay competitive. It is, therefore, necessary to reduce discrimination and select some of the achievable core competencies based

on the review of different streams of education. It helps to bring different streams of education under one framework through integration.

Any initiative proceeds by remembering its past contexts and the madrasah education stream is no exception. It has a long and glorious history. Madrasahs have long been regarded as the basic educational institutions of the Muslim ummah. The reason for this is that the madrasah education system always strived for the learners to achieve success in worldly life and the afterlife.

In fact, madrasah education began with the emergence of Islam. Prophet Muhammad (PBUH) founded Darul Arqam at the foot of Mount Safa near Makkah before Hijrah, and he set up, after Hijrah, the Suffah residential madrasah and Darul Qurra madrasah at the northeastern corner of the Prophet's Mosque ['Masjid an-Nabawi']. Later, Hazrat Umar (RA) built madrasahs in Syria and Hazrat Ali (RA) in Basra and Kufa. More than 40 madrasahs were established in different parts of the Islamic Empire during the reign of Khulafa-e-Rashideen. In continuation of the spread of Islam, madrasah education spread in the subcontinent with the conquest of Sindh by Muhammad bin Qasem in 712.

After the conquest of Bengal and the establishment of Muslim rule in 1204, madrasahs were opened in Bengal under government management and private initiatives. Madrasahs were built in different parts of Bengal during the Sultanate period (1210-1576). The madrasah curriculum at that time included Quran, Hadith, Fiqh, Arabic, Nahwu, Saraf, Balaghah, Mantiq, Kalam, Tasawuf, Hikmat and Philosophy. Later, the madrasah curriculum was revised and modernised, accommodating various perspectives. In particular, during the Mughal period, the madrasah curriculum gradually incorporated Islamic subjects with other branches of knowledge and science, such as medicine, astronomy, mathematics, geography, accounting, agriculture, public administration, biology, physics, chemistry, and zoology.

In the early days of British rule, madrasah education had practical importance, because, in the wake of the collective demands of the ulema and ordinary Muslims of the Indian subcontinent, Persian remained the language of government work, especially of documents and courts. The Calcutta Alia Madrasah was opened under the leadership of Molla Majduddin (Molla Madan) and was approved by the British administration in 1780. Later, new madrasahs were built in different parts of Bengal following the Calcutta Alia Madrasah. It is important to note that there were different types of madrasahs in Bengal beyond the Calcutta Alia Madrasah system. The British administration's Madrasah Reform Scheme, formed in 1906, took the initiative to modernise the madrasah curriculum under the Reformed Madrasah Scheme of 1914 and it was successful. Studying the English language was made compulsory. Its main objective was to elevate maktabs and madrasahs to the level of modern institutions. It came into effect in April 1915. This revision of the madrasah curriculum, known as the New Scheme, was accepted by most of the stakeholders. A small number of madrasahs remained confined to their old ways. One such madrasah was the Calcutta Alia Madrasah which continued under the 'old scheme'.

The instructions given by the Father of the Nation Bangabandhu Sheikh Mujibur Rahman in his speech at the Government Madrasah-e-Alia, Dhaka on March 30, 1973, gave a new impetus to the development of the madrasah education stream.

In 1984, in line with the recommendations of the Mustafa Bin Quasem Committee, the education system controlled by the Bangladesh Madrasah Education Board was divided into

several levels to bring it to par with the general education stream. Thus, a balance has been created between general education and madrasah education streams, due to which the learners of the madrasah education stream are getting status equivalent to the general education stream.

The National Education Policy 2010 has given some clear directions for modernising madrasah education. Besides expanding the opportunities for Islamic education, it has also advocated for a mechanism to enable the learners to excel by becoming proficient in livelihood-oriented learning and acquiring related knowledge and sciences. It is pertinent to note that all previous studies on the revision of the madrasah curriculum have provided some important suggestions for improving the skills of the learners, which in turn inspires the integration of the madrasah education stream with the general education stream.

In accordance with the National Education Policy 2010 and following the guidance of Honourable Prime Minister Sheikh Hasina, the Islamic Arabic University was established in 2011. The Directorate of Madrasah Education was established in 2015.

2.19.2 In addition to achieving the vision outlined in the framework, one of the main objectives of madrasah education as a specialised religious education system is to develop virtuous [muttaqin] and competent religious scholars [ulema] endowed with Islamic values.

2.19.3 To develop the madrasah as a centre for exercising Islamic creed [aqidah], action [amal], practice of virtue and morals [akhlaq], and knowledge and science [ilm] along with meeting the targets set for implementing the vision of the curriculum of the madrasah education stream.

2.19.4 In the madrasah education stream, it is necessary to develop a continuous curriculum from Ibtedai to Alim classes to ensure that the learners become competent, virtuous and modern to survive in the global situation. After completing Ibtedai and Alim-Dakhil levels, a learner will either participate in higher education or enter the workforce.

2.19.5 In addition to the values of solidarity, patriotism, harmony, tolerance, respect, and integrity as outlined in the curriculum framework, Islamic values are considered important values in the madrasah education stream. This education stream embodies Islamic values through personal faith [iman], creed [aqidah], action [amal], and practice of virtue and morals [akhlaq].

2.19.6 In the madrasah education stream, taqwa will be added to the desired qualities and attitudes of learners as outlined in the curriculum framework. Taqwa means living a righteous and just life having the fear of Allah and the Judgement Day. Therefore, a learner will be motivated to establish harmony with the beliefs, customs and culture of their own community as well as all other communities.

2.19.7 The learner skills defined in the curriculum framework are equally applicable to the madrasah education stream.

2.19.8 In the madrasah education stream, learners at the Ibtedai to Alim levels will acquire the ten core competencies defined in the National Curriculum Framework through a competency-based curriculum. In order to maintain the characteristics of the madrasah education stream, Islamic Studies is included as a learning area in this stream with special importance on the competency 'to engage oneself in the welfare of nature and humanity through religious discipline, honesty and moral virtues and the practice of integrity' as outlined in the National Curriculum Framework. According to the learning area of Islamic Studies, the learners at madrasahs should be able to have a proper understanding of their individuality and the Creator. For example, the learners should come to the realisation that the existence of the creation without the Creator is unimaginable; they must acquire the ability to apply the knowledge of the Quran, Sunnah and Fiqh to solve problems; they should be proficient in the regular practice of religious discipline and recitation of the Quran; above all, they must acquire the skill of surrender to Almighty Allah by having a correct and firm faith in Allah and giving priority to Allah's commands and prohibitions over everything else in life.

2.19.9 In view of the unique characteristics and importance of the madrasah education stream, a coordinated logical arrangement of subjects from Ibtedai to Dakhil level is given serious consideration.

Learning area	Selected subjects by level		
	Ibtedai Grade 1-5	Dakhil	
		Grade 6-8	Grade 9-10
Islamic Studies	1. Quran Majid and Tajweed; 2. Hadith Sharif; 3. Arabic; 4. Aqeedah and Fiqh; and 5. History of Islam		
Language and Communication	1. Bangla 2. English 3. Mathematics 4. Science 5. History and Social Sciences 6. Wellbeing 7. Art and Culture	1. Bangla 2. English 3. Mathematics 4. Science 5. History and Social Sciences 6. Life and Livelihood 7. Digital Technology 8. Wellbeing 9. Arts and Culture	1. Bangla 2. English 3. Mathematics 4. Science 5. History and Social Sciences 6. Life and Livelihood 7. Digital Technology 8. Wellbeing 9. Arts and Culture
Mathematics and Logic			
Science and Technology			
Digital Technology			
Social and Global Citizenship			
Life and Livelihood			
Environment and Climate			
Religion, Values and Ethics			
Physical and Mental Health and Wellbeing			
Arts and Culture			

Please note: Although Digital Technology and Life and Livelihood are not separate subjects at the Ibtedai level, the learning competencies in the two subjects will be acquired in combination with other subjects.

2.19.10 While formulating the detailed curriculum, specialised subjects of the madrasah education will be finalised and the development of their teaching-learning materials, strategies and assessment processes will be defined. The following five compulsory subjects will be included in the specialised subjects of madrasah education from Ibtedayi to Dakhil: 1. Quran Majid and Tajweed; 2. Hadith Sharif; 3. Arabic; 4. Aqeedah and Fiqh; and 5. History of Islam.

2.19.11 Review and revision of madrasah curriculum

The results of the study conducted by the Bangladesh Madrasah Education Board and NCTB on the present state of madrasah education and its future reflected the expectations of the stakeholders. Besides recommending the modernisation of madrasah education keeping in view the national and international contexts, goals and priorities, the study also stressed the importance of inculcating among the learners the spirits of the Liberation War, patriotism, ethics, and values and the opportunities to acquire positive attitudes. It also highlighted the need for madrasah education to focus on the needs of the times and preparedness for the future world of work by reducing the disparity of madrasah education with other streams while maintaining its own characteristics. The study recommended measures to ensure that the learners are not left behind in social or other fields, including health awareness, sports, cultural activities, and digital technology. The stakeholders also suggested that along with recommendations for introducing skills-and-competency-based assessments by making the classroom activities enjoyable, multifaceted and activity-based, there was a need for formative assessment to enable the learners to acquire proper learning. Analysing the rationale, policy guidelines, historical background and overall stakeholder views, the following are the comprehensive and universal expectations of madrasah education:

- To take measures to achieve the 10 core competencies outlined in the curriculum framework for all learners;
- To take initiatives to reduce existing disparities (in terms of subjects, contents, marks, learning time, weightage and so on) between madrasah education stream and general or other streams through modernisation, and to revise madrasah education to ensure its equivalence and acceptability with other streams;
- To ensure the attainment of the spirit of the Great Liberation War, patriotism, ethics, values and positive attitudes;
- To adopt measures to acquire the necessary competencies, skills and attitudes in line with the changing job market;
- To create opportunities to acquire the skills and competencies required for physical and mental health and overall wellbeing in a ever-changing environment;
- To create opportunities to engage in and practice arts, culture, sports, and so on in line with religious guidance and by keeping solemnity;

- To consider the practical idea of introducing a common curriculum and common subjects to facilitate a foundational education in Grade 1-10, as proposed in general education stream while maintaining its own characteristics;
- To make teaching-learning activities enjoyable, participatory, experience-based and multifaceted through a combination of different methods and techniques;
- To introduce skills-and-competency-based assessment with emphasis on continuous formative assessment in addition to formulating a skills-and-competency-based curriculum;
- To increase and strengthen the depth and scope of religious education;
- To revise curriculum by adopting the values, qualities, skills, competencies and principles outlined in the curriculum framework.

The following strategies will be adopted in revising the madrasah curriculum to successfully reflect the expectations, opinions and suggestions mentioned above:

- To formulate a skills-and-competency-based curriculum which will reduce subject dependence and prioritise acquiring 10 core competencies;
- To revise the curriculum by determining the contents that must be kept while maintaining its own characteristics;
- To reduce the weightage of subjects and contents by adopting a competency-based approach to conduct classroom activities through action and experience-based learning, where the reliance on memorisation is minimal;
- To reduce the weightage of subjects and contents and the disparities in learning time, marks, and so on by applying inter-subject and inter-branch strategies in an integrated manner while maintaining the characteristics of the education stream;
- To reduce systematic disparities among learning areas and subjects through technical exercises in accordance with the basic guidelines of the curriculum framework and the reviews of the recommendations received from policy guidelines and studies;
- To reduce existing disparities through prioritising the compulsory subjects and their integration;
- To make arrangements so that learners get equal access to education in any other stream;
- To revise the curriculum with emphasis on skills and competencies by reducing the predominance of subjects and contents.

It is possible to reduce the weightage of contents to a great extent if curriculum revision activities are conducted taking into account whether the expectation of a learner is being met adequately after the completion of a course. Teaching the learner how to explore and acquire competencies in a wider context without overwhelming them with too much content can create lifelong learning opportunities.

2.20
Curriculum dissemination and training

This curriculum will bring some important qualitative changes in the education system of the country. It is important to provide a complete and accurate idea of these changes to all stakeholders. Unless the same idea is promoted at all levels, proper and successful implementation of the curriculum is impossible. Therefore, keeping in view the importance of the matter, a communication and dissemination strategy will be adopted for the broad dissemination of the curriculum structure and curriculum concepts. Under this action plan, activities such as discussions, seminars, development of communication materials, training, workshops and so on will be organised to review the roles and responsibilities of learners, parents, teachers, education administrators, experts, trainers and policymakers. While the dissemination of the curriculum will on the one hand be done directly through training and campaigns, plans will on the other hand be adopted and implemented to disseminate it online and offline using ICT.

Teachers will play a vital role in the implementation of the curriculum. Training of all teachers and education-related staff will be ensured before the proposed curriculum is implemented at the field level. Teachers will be trained through offline and online training on curriculum dissemination.

The NCTB will create a master trainer pool to disseminate the curriculum at pre-primary, primary and secondary levels. Subsequently, before the countrywide implementation of the curriculum from 2023, the respective directorates will ensure the curriculum dissemination training of teachers at all levels.

The NCTB will also launch online courses through its learning platform on a variety of subjects and issues related to the curriculum.

2.21
Curriculum implementation and monitoring

After the development and introduction of the curriculum, stakeholders expect the successful implementation of it. Achieving the desired competencies by learners will depend on the successful implementation of the curriculum. After piloting it in 2022, the new curriculum will be implemented in phases between 2023 and 2027. In order to implement the curriculum properly, considering the revisions and changes in the curriculum framework, it is essential to ensure its proper formulation, understanding, practice, reflection and implementation at different stages of education. Otherwise, many important revisions or reforms may fail. In this context, infrastructure development is also important to ensure an enabling learning environment. The levels at which development or reform is essential are:

A) Educational institutions

Adequately skilled, professional, and trained teachers as per the demand of curriculum, subjects and teaching-learning methods: Teachers are the main driving force behind the successful implementation of the curriculum. Learners will acquire the competencies outlined in the curriculum through the planned teaching-learning activities conducted in or outside the classroom. Therefore, for the successful implementation of the curriculum, an adequate number of skilled, professional, and trained teachers are required as per the demand of the new subjects and teaching-learning methods. The proposed curriculum framework introduces a number of important changes in the learning areas, competencies and implementation strategies. These changes need to be reflected in the number, responsibilities, skills and attitudes of the teachers at schools. These changes can be implemented in phases through the training of existing teachers and the appointment of new professional teachers as per the demand for new recruits.

Teachers: The main driving force behind the implementation of the competency-based curriculum: The main driving force behind the implementation of the competency-based curriculum

An adequate number of competent, professional and responsible teachers are required to achieve the desired results, by properly implementing the proposed reforms with significant changes and revisions in the new curriculum. Teachers are the main driving force behind the competency-based education system. Therefore, it is necessary to formulate and implement a teacher recruitment and development plan to improve the professional skills and attitudes of the existing teachers as well as to prepare future teachers to implement the new curriculum. It is necessary to ensure that the teachers are able to perform the responsibilities entrusted to them voluntarily, responsibly and with honesty and satisfaction.

Since there is no alternative to qualified teachers for the successful implementation of the proposed curriculum, steps should be taken to formulate and implement this plan immediately after this curriculum framework is approved.

The teacher recruitment and development plan must take into account two main aspects:

1. Capacity building of existing teachers through short, medium and long-term plans to implement the new curriculum.
2. Setting national standards for the recruitment, posting and skills development of new teachers.

The question that needs to be answered while formulating the teacher recruitment and development plan is as follows:

> **Why should a teacher leave their old teaching-learning method and switch to conducting education activities according to the new curriculum?**
>
> or,
>
> **Why should a talented young person choose teaching as a career?**

Teachers are key to implementing the plan (curriculum) and developing citizens for a developed Bangladesh by 2041. Hence, there is no alternative to maximum investment in teacher development. However, the important points that can be included in this integrated plan are:

- Continuous professional development training for existing teachers.
- Academic (research, scholarship and so on), financial (pay scale, increments, and so on), administrative (promotion, progression and so on) and social (awards, medals and so on) incentives for teachers.
- A system of accountability integrated with teacher incentives.
- Advanced training on pedagogical, disciplinary and interdisciplinary approaches. Training on educational technologies.
- Creation of modern infrastructural facilities in all sectors, including training and research

In the current context, it is also crucial for a teacher to have the ability to conduct teaching-learning activities during times of emergencies. To improve the professional skills of teachers, it is necessary to set national standards for teachers and revise the teacher training curriculum accordingly, to align it with the curriculum framework. The process of appointing teachers as per requirement in all educational institutions should be started as soon as possible through a coordinated plan for existing teachers and those who will be appointed in the future.

Establishment of Institutions-based physical infrastructural facilities, including social laboratories, science laboratories, ICT laboratories, and ICT infrastructure, and availability of required non-teaching staff: For the successful implementation of the curriculum framework formulated as per the needs of the 21st-century education system, the revised design of the schools should include modern facilities such as playgrounds, gymnasiums, swimming pools, and so on, as part of its physical infrastructure. In addition, social labs, science labs, ICT labs and ICT infrastructure should be established in the schools to ensure the acquisition of important competencies defined in the curriculum. At the same time, it is very important to make arrangements for the recruitment of non-teaching staff in the school.

Appropriate learning environment: To acquire the learning competencies defined in the curriculum, an appropriate learning environment must be ensured at the school level. In addition to the necessary physical facilities as per the universal design for learning (UDL), an effective learning environment must be ensured through an adequate number of learners in the classroom, provision of necessary furniture and regular stationery, constant communication with people from all sections of the society, including parents, and proper utilisation of local resources.

Effective teaching-learning materials: Along with the teacher, teaching-learning materials play a major role in acquiring learning competencies. Effective teaching-learning methods and materials should be developed to acquire learning competencies through appropriate learning experiences, considering the age, stage of development, and interests of the learners. In order to acquire the competencies defined in the curriculum framework, emphasis is placed on the teacher's guide, supplementary reading materials, and reducing dependency on textbooks. This is because learners will go through the relevant learning experiences to acquire the desired competencies which will be mentioned in the teacher's guide. Moreover, the school, society and surrounding environment will act as accessories of the educational activities. Therefore, for the successful implementation of the curriculum, it is essential to ensure teacher support and timely provision and utilisation of the overall environment and effective multi-sensory teaching-learning materials.

Institutional learning relationships between the school and the service sector, industrial sector, businesses, local government and social institutions in its vicinity: Learners will systematically engage in various ways with families, communities, neighbourhood services, businesses and other social sectors, including public administration, and participate in various activities, studies, piloting ideas, thereby developing knowledge, skills, values and attitudes. Therefore, it is necessary to establish an institutional relationship between the school and

the mentioned sectors. It should be noted here that, for the successful implementation of the curriculum framework, both school as well as out-of-school time is considered effective learning time, where learners will systematically engage is effective learning. That is why this close connection with the school is very important. Through this, families and communities will help in the pupil's learning, while the school will engage families and communities in its various activities.

Institutional linkages with technical schools and colleges: this essential to establish institutional linkages between schools and technical schools and colleges for proper implementation of the coordination strategy with general and technical education as outlined in the curriculum framework. It is also important to establish this institutional connection for the effective implementation of life and livelihood issues in general education and, where applicable, for the transfer from general education to technical education, or for creating access to potential employment opportunities through skills training.

Establishing the school as a social and cultural hub: To successfully implement the changes and revisions in conceptualisation and strategies of education proposed in the curriculum framework, it is essential to establish the school as a social and cultural hub. A direct connection between the school and society and its constituents will accelerate the acquisition of the desired skills and competencies, which is an integral part of a 21st-century education system.

B) Education management

In order to implement the proposed curriculum, some important revisions, changes or reforms are necessary in the schools, as well as in the education system. Some important points are presented below.

For the successful implementation of the curriculum as per the framework:

- The teacher training curriculum needs to be aligned with the conceptualisation, strategies, methods and contents of the curriculum.
- It is essential to organise integrated and continuous teacher training. Teachers also need to be re-equipped and updated through continuous training by defining pre-employment competencies and skills for teachers, and setting standards so that suitable training and strategies can be developed to achieve clear goals.
- Education administrators and managers also need to be trained on curriculum conceptualisations, strategies, methods and contents so that they can provide effective support to the school. In addition, it is also necessary to systematically create a permanent education administration through proper academic initiatives and continuous training.
- It is necessary to establish an effective monitoring and mentoring system and to create a credible and acceptable system through necessary digitisation.
- It is essential to formulate and implement an impartial/objective formative assessment framework and system. To this end, it is necessary to create a credible and acceptable system through digitisation with the highest priority in teacher empowerment.

- Curriculum philosophy, conceptualisations, strategies, methods and contents need to be integrated with higher education and related management and institutions, such as admission processes, disciplines, curricula, interdisciplinary managements and linkages and so on.
- It is necessary to define the role of NCTB not only in curriculum development but also in its implementation, to ensure the effective implementation of the curriculum. The sector should not wait but continue the work of making additional revisions, enhancements, and changes, on the basis of the results obtained from studies, as required. The monitoring, evaluation, research and revision of the curriculum implementation are important activities for the implementation of a 21st-century curriculum, which requires professional and skilled specialists.
- For a coordinated implementation, it is necessary to ensure the formulation of a time-bound master plan for the implementation with all the organisations involved. It is very important to follow the technical steps properly and meticulously in the implementation of the curriculum. If the implementation is not carried out through integrated planning, the probability of implementation disaster will be higher than achieving effective results or desired goals.
- An integrated communication strategy needs to be formulated and implemented for the active support and participation of all stakeholders, including learners, parents, and teachers. Collective participation of all removes the impediments to implementation, so effective results can be achieved quicker.

C) Policies and plans

The successful implementation of the curriculum as per the curriculum framework will often require revisions of existing policy guidelines as well as the formulation of new guidance. The following are some of the important issues in this regard, to make necessary reforms while giving the opportunity to guide policy on various issues, including institutional reforms and financing:

- Policy guidelines, strategies, planning and financing are required for proper understanding, reflection and implementation, where applicable, of the changes and revisions outlined in the curriculum framework by stakeholders at all levels, including in the education system.
- Initiatives for institutional reform, efficiency, empowerment and financing of the education system.
- Engaging all education-related organisations and responsible stakeholders in the integrated monitoring and evaluation system so that immediate actions can be taken by constantly monitoring the efficiency of the entire system.
- Formulation of policy guidelines for the use of technology in education and its easy access and utilisation.

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কারিকুলাম ডেভেলপমেন্ট উইং, জাতীয় শিক্ষাক্রম ও পাঠ্যপুস্তক বোর্ড, বাংলাদেশ (২০১৯)। মাধ্যমিক স্তরের শিক্ষাক্রম পর্যালোচনা, বাস্তবায়নের বাস্তব অবস্থা যাচাই ও চাহিদা নিরূপণ সমীক্ষা ২০১৯

জাতীয় শিক্ষাক্রম ও পাঠ্যপুস্তক বোর্ড, বাংলাদেশ (১৯৯১)। সর্বজনীন প্রাথমিক শিক্ষার পটভূমিতে প্রাথমিক স্তরের শিক্ষাক্রমের পরিমার্জন ও নবায়ন-আবশ্যকীয় শিখনক্রম (প্রাথমিক শিক্ষা)

সূচনা ফাউন্ডেশন (২০১৯)। বিদ্যালয়ে একীভূত শিক্ষা বাস্তবায়নের জন্য কার্যকর শিখন-শিক্ষন কৌশলঃ শিক্ষা-পেশাজীবিদের জন্য ট্রেনিং ম্যানুয়াল। ঢাকাঃ সূচনা ফাউন্ডেশন।

Annexure

Substituted on the same memo and date
People's Republic of Bangladesh
Ministry of Education

Secondary and Higher Secondary Division

(Govt. Secondary-1)
www.shed.gov.bd

No. 37.00.0000.071.07.139.19.1326 Date: 30 December 2019

Subject: Regarding the approval of 'Curriculum Development and Review Core Committee (CDRCC)' for the revision and renewal of the National Curriculum 2012 by National Curriculum and Textbook Board (NCTB).

Source: National Curriculum and Textbook Board memo no. 37.06.0000.402.22.342.19/273G; Date: 30.10.2019.

In accordance with the subject and the sourced paper/document, in order for the successful execution of the revision and renewal of the National curriculum 2012, the following description of 'Curriculum Development and Review Core Committee (CDRCC)' is approved by the National Curriculum and Textbook Board (NCTB).

Serial No.	Name of the committee member and address	Designation
1	**Professor Narayan Chandra Saha** Chairman, National Curriculum and Textbook Board (NCTB), Bangladesh	President
2	**Curriculum Specialist** **Professor Dr. Siddiqur Rahman** Former Director, IER, The University of Dhaka (DU), Dhaka.	Member
3-5	**Renowned Educator**	
	a) **Professor Dr. Muhammed Zafar Iqbal** Department of Computer Science and Engineering, Shahjalal University of Science and Technology, Sylhet	Member

Serial No.	Name of the committee member and address	Designation
	b) **Professor Shaheen Mahbuba Kabir** Department of English (Retired), Jahangirnagar University, Savar, Dhaka	Member
	c) **Professor Lafifa Jamal** Department of Robotics and Mechatronics Engineering, University of Dhaka	Member
6	**Assessment Specialist:** **Professor Robiul Kabir Chowdhury** Senior Specialist, Examination and Evaluation, Bangladesh Examination Development Unit, Board of Intermediate and Secondary Education, Dhaka	Member
7	**Educational Psychologist** **Professor Mehtab Khanam** Department of Psychology, University of Dhaka, Dhaka	Member
8	**Pedagogy Specialist** **Professor Dr. M Tariq Ahsan** I.E.R, University of Dhaka, Dhaka	Member
9	**Technology Specialist** **Anir Chowdhury** Policy Advisor, Access to Information (a2i) Project	Member
10	**Professor Dr. Riyadh Chowdhury** Controller (Publication), Bangladesh Madrasa Board of Education, Dhaka	Member
11	**Dr. Nurul Islam** Director Curriculum, Bangladesh Technical Education Board	Member
Ex officio		
12	Head of Department, Master of Education in Curriculum and Instructional Technology, IER, DU	Member
13	Director, Training, Directorate of Primary Education, Mirpur, Dhaka	Member
14	Director, Secondary, Directorate of Secondary and Higher Education, Bangladesh, Dhaka	Member
15	Member (Curriculum), National Curriculum and Textbook Board (NCTB), Bangladesh	Member

Serial No.	Name of the committee member and address	Designation
16	Member (Primary Curriculum), National Curriculum and Textbook Board (NCTB), Bangladesh	Member
17-21	Five Specialists (Curriculum), National Curriculum and Textbook Board (NCTB) , Bangladesh	Member
22	Specialist, National Curriculum and Textbook Board (NCTB), Bangladesh	Member Secretary

Mohammad Alomgir Hossain
Senior Assistant Secretary
Phone No: 9545974

Chairman, National Curriculum and Textbook Board (NCTB), Dhaka

For their kind information (Not according to hierarchy):

1. Private Secretary to Hon'ble Minister, Ministry of Education, Bangladesh Secretariate, Dhaka
2. Private Secretary to Secretary, Directorate of Secondary and Higher Education, Ministry of Education.
3. Private Secretary to Hon'ble Deputy Minister, Ministry of Education, Bangladesh Secretariate, Dhaka.

National Curriculum and Textbook Board (NCTB)
Textbook Bhaban

69-70, Motijheel C/A, Dhaka 1000, Bangladesh
www.nctb.gov.bd

Date: 22.01.2020

Memo - NCTB/Edu.Dev/37.06.0000.402.22.342.19(Part-2)/72

Office Order

According to the recommendation of CDRCC, in order to conduct the activities for the revision and renewal of the National Curriculum and to co-ordinate with the CDRCC, a Working Group has been formed comprising of the members as follows-

1.	Prof. Md. Moshiuzzaman, Member (Curriculum), NCTB	Convener
2.	Prof. Md. Farhadul Islam, Member (Textbook), NCTB	Member
3.	Prof. Dr. AKM Reazul Hassan, Member (Primary Curriculum), NCTB	Member
4.	Prof. Lutfur Rahman, Curriculum Specialist, SESIP, NCTB	Member
5.	M. Mokhles Ur Rahman, Senior Specialist (Secondary), NCTB	Member
6.	Prof. Md. Munabbir Hossain , Senior Specialist (Primary Curriculum), NCTB	Member
7.	Prof. Qurratul Ayen Safdar, Senior Specialist (Primary Curriculum), NCTB	Member
8.	Prof. Md. Golam Mostofa, Senior Specialist, (Primary Curriculum),NCTB	Member
9.	Muhammad Rakibul Hasan Khan Senior Specialist (Secondary) NCTB	Member
10.	Mst. Khadija Yasmin, Specialist (Secondary), NCTB	Member
11.	Dr. M Tariq Ahsan, Professor, IER, University of Dhaka	Member
12.	Iqbal Hossain, Education Specialist, UNICEF Bangladesh	Member
13.	Murshid Akter, Research Officer (Secondary), NCTB	Member
14.	Layla Farhana Apnan Banu, UNICEF Bangladesh	Member

15. Nasreen Sultana Mitu, Former Assistant Professor, IER, Rajshahi University Member
16. Prof. Syed Mahfuz Ali Senior Specialist (Secondary), NCTB Member Secretary

(The list is not in order of seniority)

This committee will be following the guidance of the CDRCC and the fulfil the responsibility of revising and renewing the national curriculum.

Secretary
Phone No. 9565644
Date: 21.01.2020

Sharok No./Promoter- NCTB//37.06.0000.402.22.342.19(Part-2)/72/27

A copy has been sent to whom it may concern,

1-4. Member (Textbook, Curriculum, Finance, Primary Curriculum)
5-6. Deputy Secretary
7-22. Involved Officers
23. Finance division, NCTB
24. Programmer, NCTB (Request to publish in website)
25. PA to Chairman, NCTB
26. PA to Secretary, NCTB
27. Preserved Documents

Assistant Secretary (Administration)

National Curriculum Framework 2021

National Curriculum and Textbook Board, Bangladesh