



**Bhutan Council for School Examinations and
Assessment
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Thimphu**

**ENHANCING THE NATIONAL
ASSESSMENT SYSTEM TO
IMPROVE LEARNING
OUTCOMES IN BHUTAN**

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Introduction

Countries require reliable and quality evidence to understand if students have the knowledge and skills that they are expected to acquire. Large-scale assessment underpinned by proven methodologies can be a major policy tool to help governments understand if existing education interventions have been able to achieve desired learning outcomes.

Bhutan, a country in South Asia, accords the highest priority to education. To measure the efficacy of school sector interventions, Bhutan Council for School Examinations and Assessment (BCSEA) partnered with Australian Council for Educational Research (India) to strengthen its National Education Assessment (NEA) for obtaining evidence on learning, monitoring the progress of learning outcomes, understanding associations between context and achievement, and differences in achievement between groups. Eventually, the assessment reform will support measuring learning at the key stages of grades 3, 6, and 9.

After one and a half years of the project, Bhutan now has a robust National Education Assessment Framework (NEAF) and technical standards that will guide the management and implementation of NEA. Developed through a participatory process with key education stakeholders, the framework is based on international best practices and local needs. NEA also attempts to assess 21st century skills and students with special needs will be included in the next cycle of NEA implementation.

Intensive capacity building took place under the partnership so that education officials in Bhutan could acquire the knowledge and technical proficiency needed to manage NEA with NEAF as the guiding framework. A strong assessment system will also allow Bhutan to report progress against Sustainable Development Goal 4. Moreover, the data will help policymakers to understand levels of achievement and help them to review the efficacy of education interventions.

Background

The philosophy of Gross National Happiness (GNH) influences the social and economic advancement of Bhutan and education plays a vital role. According to the 2019 Annual Education Statistics, there are 1 007 educational institutes in Bhutan with approximately 166 000 enrolments in grade PP-12 (Policy and Planning Division Ministry of Education, 2019).

Taking a holistic approach to education, Bhutan aims to equip its young population with appropriate knowledge, skills, and competencies, and instil in

them the country's unique cultural and ethical values as well as universal values to cope with the challenges of the 21st century. However, despite the intentions, the quality of education has remained one of its major concerns.

There is high youth unemployment due to skill mismatch – overall youth unemployment rate is estimated at 11.9 per cent (National Statistics Bureau, 2019). In terms of equity, there is a significant difference in educational attainment among children from different economic and social strata (Policy and Planning Division Ministry of Education, 2019).

Given this background, Bhutan Council for School Examinations and Assessment (BCSEA) aspires to conduct periodic learning assessments of students to bring about improvements at the system and classroom levels. Methodologies for planning, implementation, and use of international surveys have changed significantly, and advances in specific disciplines including psychometrics, test development, statistics, sampling theory, and the use of new technologies of assessment have influenced assessments. This project of assessment reform helps to re-examine the assessment system of the country and adopt advanced assessment methodologies.

BCSEA partnered with the Australian Council for Educational Research (India) for the development of NEAF, institutional capacity building in large-scale educational assessment surveys, and technical support in conducting NEA in reading literacy and numeracy for Grade 3.

In coordination with the Policy and Planning Division and the Gross National Happiness Commission, and with support from development partners, BCSEA secured a total of Nu (BTN) 35 344 428 from the Global Partnership for Education (GPE) under the project 'Enhance national assessment system to improve learning outcomes'.

The draft NEAF draws from global assessment best practices to ensure that data is designed, collected, managed, and analysed effectively for the accurate measurement of learning outcomes. It also leverages to maximize students learning outcomes and raise the educational standards to international level.

An initiative

The results from NEAs conducted since 2004 indicated a lack of conceptual understanding and the absence of real-life applications across grades and subjects; there is little evidence available to ascertain the rigour of processes adopted in these past exercises. A retrospective analysis undertaken by BCSEA found some major challenges in past NEAs in the following components (BCSEA, 2015-2016):

- ☞ assessment framework;
- ☞ sampling;
- ☞ background questionnaires;
- ☞ standardised test administration;
- ☞ standardised test instruments;
- ☞ field trial;
- ☞ data analysis;
- ☞ scale; and
- ☞ report writing.

Clearly, to improve the national assessment system, there was a need to address challenges in these areas. Put simply, to make a full assessment of the education system and accurately identify areas for policy interventions, BCSEA needed a national-level assessment based on advanced methodologies and guided by a robust assessment framework.

The reform of national assessments under the collaboration between Bhutan and ACER India targets:

- ☞ developing a technically robust inclusive National Education Assessment Framework (NEAF) for grades 3, 6, and 9;
- ☞ building institutional capacity to include students with special needs in future NEAs;
- ☞ enhancing national capacity to implement NEA;
- ☞ diagnosing the health of the education system for early-grade learning;
- ☞ improving national capacity to utilise assessment data to inform policy decisions; and ensure increased and sustained funding for NEA in future cycles.

Through this project, Bhutan aims to strengthen the core pillars in the assessment system – assessment framework, systemic capacity to implement a national assessment, and assessment instruments. By assessing key stages of learning,

Bhutan will be able to understand the achievements and gaps in foundational learning up to the secondary education level.

Relevance in global educational scenario

In 2015, the Royal Government of Bhutan embraced the 17 Sustainable Development Goals (SDGs). The assessment reform documented here as a best practice contributes to target 4.1 of Sustainable Development Goal 4 – ‘By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.’

SDG Goal 4 stresses the need for learners to attain a minimum level of knowledge and skills in core learning domains. The robust components of the assessment framework will strengthen NEA and enable collection of accurate data on the learning levels of students. The data from NEA can be used to determine the actual levels of learning attained by students, measure their competencies and application skills, and report progress towards the goal of ensuring equitable and quality education (Australian Council for Educational Research [ACER] & UNESCO Institute for Statistics [UNESCO UIS], 2017).

The data from the national assessment will measure the learning outcomes of students and provide recommendations for designing targeted education interventions. The data will provide insights into questions such as the following: Are Bhutanese students achieving desired learning outcomes? Have their educational achievements improved over time? Has the education system addressed socio-economic disadvantage? Do students have the skills for life and work in the 21st century?

Key activities

Bhutan is a unique country in South Asia with a distinct geographical location and cultural heritage. Standardised educational survey practices when applied directly may not give desired outcomes, and thus contextualisation was necessary.

Activities involved in the development of NEAF and building capacities of key personnel included the following:

- ☞ ACER experts reviewed the curriculum and learning outcomes and standards for grades PP to 12. To understand Bhutanese education policies, the ACER experts conducted a desk review to analyse relevant policy documents of the Royal Government of Bhutan, and then visited Bhutanese schools to familiarise themselves with the school system in Bhutan.

- ☞ BCSEA and ACER India teams collaboratively developed NEAF along with a technical standards document in the first three quarters of the project. Two face-to-face workshops were organised in February and April 2019 to enhance the professional capacity of the BCSEA team in understanding the best practices to be followed in large-scale educational assessment, and acquaint them with processes to be followed in the development of assessment framework. After several rounds of deliberations between the teams, a contextual approach was finalised for NEA. A National Core Review Team was constituted to review of the draft NEAF, which met thrice from March to July 2019 to discuss various aspects of the framework.
- ☞ To enhance BCSEA's capacity for implementation of NEA, workshops on contextual and cognitive instruments were organised in September and October 2019 in Paro, Bhutan. During these workshops, teams of experts selected by BCSEA were trained by ACER India on crucial aspects of designing and developing tools of NEA. Cognitive labs were conducted to check and ascertain the various aspects of the cognitive tools. During the same period, a workshop on sampling was also conducted to build institutional capacity on selecting samples for the field trial and main survey.

Framework development

Since 2018, a number of milestones have been achieved that will support Bhutan in the management and implementation of NEA in the future.

1. A National Education Assessment Framework (NEAF) was developed after a series of capacity building workshops. Participants involved in its development were sequentially introduced to the best practices in large scale assessment and its components including design, preparation, implementation, and analysis. The process of development started with a review of the Bhutanese curriculum and frameworks of other large-scale assessments. Three drafts were prepared and each was scrutinized by the NEAF review committee composed of representatives from key departments. A rigorous consultation with diverse stakeholders – parents, local government, school teachers, school principals, district education officers, pupils with disabilities, curriculum experts, educationists, policymakers, civil society organisations, non-governmental organisations, and development partners was conducted before finalising the assessment framework. Such consultations helped in ensuring that all education stakeholders were in agreement so that NEA received appropriate support from all groups. The NEAF was thoroughly discussed at different forums such as the Education Sector Coordination Meeting and the Curriculum Technical Advisory Board Meeting, before being finally endorsed by BCSEA's Board of Directors.

2. The principles of robust assessment programmes, including design, preparation, implementation, analysis, and reporting have been followed in the current programme, thus, establishing an assessment system based on global good practices. These processes have been sited within a broader quality framework, in particular, the United Nations Fundamental Principles of Statistics that sets out the professional and scientific standards for the generation of official statistics. Such standardised procedures in the collection and dissemination of statistics will ensure that decisions are based on high quality education data (United Nations Statistics Division, 2015).
3. A series of capacity-building workshops have been conducted at the national level according to the newly defined roles and responsibilities in the NEAF. National capacity building is integrated within different stages of the project so that partners including the Ministry of Education, Royal Educational Council, and BCSEA can build necessary capacity at all levels to realise their commitments towards achieving the Bhutan Education Blue Print 2014-2024 and 12th Financial Year Plan (FYP).
4. Large-scale assessments assess identified learning domains, for example, reading literacy and mathematical literacy, on pre-defined learning outcomes. The content along with skills required to master a learning domain and learning outcomes are defined in the assessment framework. The focus of the assessment is whether the learner can apply the skills and concepts learnt in schools in a variety of real-life situation. Data collected in a large-scale assessment has the potential to depict the precise status of an educational scenario, and management of data quality plays a central role in achieving SDG 4. To adequately capture the data, appropriate technical standards were developed for the NEA.

Contribution to education system

Increased effectiveness

To track and monitor progress in the provision of quality education, systems have to measure the impact of their interventions. Assessment reform will ensure that the learning outcomes of Bhutanese children are measured accurately using advanced learning assessment techniques.

Testing students only on the basis of the prescribed curriculum and not on the basis of competencies may not indicate the actual levels of learning that students have attained. An analysis of learning outcomes can be used to inform education policies, target resources, modify school curriculum, pedagogies, and teaching and learning practices of a country (ACER & UNESCO UIS, 2017). NEA focuses on

measuring learning outcomes and provides an opportunity to assess students' academic competencies and their ability to apply the skills and concepts they have learnt.

Increased efficiency

The NEA framework draws from best practices of assessment and follows international standards. Simultaneously, the framework is contextualised to meet the educational aspirations and vision of Bhutan and aligned with the Bhutan education sector plans.

An assessment framework is a foundation for rolling out large-scale national assessments such as NEA. The framework allows testing of curriculum-based knowledge and provides opportunities to test competencies in each test domain of learning – English, Dzongkha, Mathematics, and Science.

The associated project frameworks, operational plans, standard operating procedures, and reporting and monitoring tools will support smooth implementation and management of NEA.

Alignment with global practices

To understand if Bhutan is meeting the target of quality education, it needs quality data that reveals the current learning levels of students and the achievement gaps between groups (especially socioeconomically disadvantaged groups). With the improved assessment system, Bhutan will be able to derive sound, reliable, and comparable education data from the national assessment and design interventions based on the evidence. Bhutan's NEA is an effort to measure 21st-century skills embedded within the parameter of the Nine Student Attributes in the Bhutan Education Blueprint (The Ministry of Education, Royal Government of Bhutan, 2014). The holistic assessment will be able to provide a clear picture of the health of the education system, support improvements of interventions, and eventually learning.

Sustainability

The participatory and collaborative nature of the reform process is likely to improve the implementation and management of NEA. Capacity building of key education officials on the components of all aspects of large-scale assessment will ensure that the system is able to undertake implementation without the assistance of external technical partners. The manuals and protocols, if followed faithfully, will ensure that the assessment administered is able to yield quality data. To give an example, while ACER India will lead the data analysis during the field trial, in the main survey, Bhutanese experts will conduct the data analysis

with technical inputs from ACER India. Currently, the reform programme is being funded by grant support from GPE under Education Sector Program Implementation Grant (ESPIG) to BCSEA. It is expected that once the NEAF is endorsed, the Royal Government of Bhutan will ensure increased and sustained funding for NEA for future cycles.

Factors ensuring success

Social front

- ☞ The small population size of the country allows fast-track implementation of any planned activity.
- ☞ With a small and dedicated team working in the assessment department, networking, knowledge transfer, and information sharing are easy. Appropriate size and composition of other teams also support intra-department coordination.

Economic front

- ☞ From 2014 to 2017, the government's expenditure on education increased at an average rate of around 10 per cent of the total expenditure.
- ☞ In 2017, education expenditure accounted for 19.4 per cent of the total government budget which translates to 4.9 per cent of the Gross Domestic Product (GDP). This is above the international benchmark of allocating a minimum 4 per cent of the GDP to education.
- ☞ The government's ability to secure the grant from GPE under ESPIG demonstrates the faith of development partners in the national system.

Policy front

- ☞ Bhutan's policy and planning documents emphasise a holistic approach to education, aimed at equipping the young population with Bhutan's unique cultural and ethical values, as well as universal values and globally applicable skills and competencies.
- ☞ Education is recognised both as a basic human right and as a pre-requisite for social, cultural, and economic progress (Department of Education, 2001).
- ☞ The 12FYP shifted the focus of education from expanding access to the quality of learning. Out of ten National Key Performance Indicators (KPIs) for education and skills, nine are related to quality at various levels of education.
- ☞ The previous NEAs and PISA-D participation have helped reflect on the experience and provide critical inputs to shape the current NEAF.

Political front

- ☞ Two-party system, stable government, education leader desire for change and strong political will support seamless implementation of the project.

Lessons learned

- ☞ The objectives of the project have evolved over time. The collective efforts of the core members from BCSEA, the national review team, and support from the international technical team, ACER India, helped build an appropriate response to the changes.
- ☞ Planning in advance helped coordinate with diverse stakeholders and involve them at different levels of the NEAF development process.
- ☞ For successful implementation of any large-scale assessment, a dedicated assessment team with appropriate skills and adequate resources is a must for responding to the diverse demands of designing, implementing, analysing, and disseminating the outcomes of the learning assessment. Such a team was constituted and has remained in place to guide the reform process.
- ☞ Developing standardised assessment instruments aimed at measuring values and attitude apart from cognitive rigour has been a new lesson for BCSEA.
- ☞ It was felt that consultation on contextual instruments with different stakeholders can add value to the instrument. Thus, for the development of contextual questionnaires in the project, opinions of diverse stakeholders like school heads, district education and policy makers were also sought.

Way forward

The unique features of this assessment which can be replicated in other South-Asian countries include:

Rigorous and consultative approach adopted in the development of the assessment framework – A technically sound assessment framework is a prerequisite for robust educational assessment. A participatory framework helps define each learning domain and competency in the context of a specific country, which in turn validates the process and ensures success.

Measurement of country specific skills – While a country may aspire to achieve best international educational practices, it may be necessary to work within practical constraints to know the actual level of learning of students in the country. Sometimes limitations can pave the path for innovation. In the case of Bhutan, it was not practical to assess 21st century skills as defined for developed countries. The skills defined as desired attributes in Bhutanese students in policy documents have limited measurability. Thus, a unique blend of cognitive and contextual questions was developed to report on them.

Building institutional capacity – Conducting NEA with the help of an international agency with assessment expertise ensures the credibility of data. In the long run however, developing the country's capacity for gathering valid and reliable educational data can make the process sustainable.

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