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Educational, Scientific and
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Sub-Education Policy Review Report: Sector-wide Policies and Plan

Brunei Darussalam

Indonesia

Malaysia

Philippines

Timor-Leste

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ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

"A plan of action for people, planet and prosperity" is an inter-governmental commitment displayed in the agenda of the UNESCO's Sustainable Development Goals (SDG) 2030. There are seven Sustainable Development Goals comprised of three dimensions; the economic, social, and environmental which are integrated, indivisible and balance within it. All members of the United Nation (UN) are committed to this comprehensive agenda exploring to address shared global concerns and to promote public wellness. Education is a fundamental human right and to fulfil the right, and countries must ensure extensive access to equitable and inclusive education and learning, leaving no one behind. Full development of the human personality and promote mutual, reciprocal insight, tolerance, friendship, and peace shall be the aim of education. Equality between female and male to get access to completing education cycles is the right to education for all to empower them equally through education. The education cycles start from pre-primary till secondary education a part of lifelong learning, ensuring children to participate as a responsible, determined, and thoughtful individual. This report will focus on the Sector Wide Policy and Plan in education of the Five Cluster Countries of Brunei Darussalam, Indonesia, Malaysia, Philippines, and Timor-Leste.

Official documents from UNESCO, OECD, World Bank and relevant respected ministry of education and department are analyzed according to five themes which are i) early childhood education, ii) primary education, iii) secondary education, iv) literacy and numeracy, and v) challenges encountered through the process of the implementation of education policy and plan. All documents retrieved online and shared by UNESCO Offices. Themes obtained from the SDG4 Goals to answer the following questions: i) Does sector-wide policy and plan at all level of education provides equal access to boys and girls?; ii) Does sector-wide policy and plan at all level of education provide quality education for all?; iii) Does sector-wide policy and plan at all level of education is free for boys and girls?; iv) Does sector-wide policy and plan at all level of education are equitable?; v) Does sector-wide policy and plan at all level of education are relevant (current to 21st-century demands)?; vi) Does sector-wide policy and plan at all level of education is effective?; vii) What is the level of literacy and numeracy of each nation?; viii) What are the challenges faced in implementing sector-wide policy and plan?

Brunei Darussalam, Indonesia, Malaysia, Philippines, and Timor-Leste displayed a tremendous effort in realizing education that is free, accessible to boys and girls, equitable, quality, relevant and effective aligning with the SDG4 goals. All nations provide free education for all during the compulsory education period and accessible to boys and girls and exhibit an increase of enrolment for both boys and girls. Most countries spend a high percentage of GDP on education to ensure education policy and plan can be implemented. Remarkably, most countries show a considerable increase in performance in the international assessment and national assessment that indicates the quality of education. Efforts to enhance the curriculum to be aligned with the 21st century needs and I.R 4.0 can be seen throughout all level of education regarding Information and Communication Technology (ICT), Technical and Vocational Education Training (TVET), education for sustainable development and inclusive education. Return of investment and monitoring of the implementation of education policy and plan indicates the effectiveness of education being executed by all nations and have their measures doing it by respected ministries and agencies.

Withal, the Five Cluster Countries also confronted with various challenges to fulfil their own policy and plan, and to align it with the SDG4 Goals. Awareness on inclusivity during the compulsory education need to be taken into consideration. Monitoring and identifying children with special needs at early age is crucial to ensure readiness in accepting these children for inclusion. Inclusivity should be broadened up not only for children with disabilities but also marginalized children such as out-of-school, children living with HIV, teenage parents, young workers, refugees, and immigrants. Parents and caregivers should be alerted on their children's conditions, various ministries and authorities required to implement initiatives in discovering parents and caregivers that demand additional relief on inclusion. Free education should be made clear in all policies on the extension to include schooling necessities such as uniforms, textbooks, shoes, nutritious food and transportation. Assessment on literacy and numeracy proficiency acquired timely execution in ensuring all children are literate and interventions to facilitate them promptly.

Despite progress, all the Five Cluster Countries are on track to achieve the SDG4 2030 agenda before of the COVID-19 pandemic. Globally, education system has been impacted by the pandemic and the school closures lead to higher learning loss and stunted progression of children to higher grades. Distorted education adversely affects the learning performance and the social and behavioural wellbeing of children and young adults. Children and young people in marginalized and vulnerable communities are especially at risk of educational exclusion. The pandemic is exacerbating the education crisis and expanding existing educational disparities. Studies from previous crises show that school closures and the economic plunge triggered by COVID-19 can also raise the rates of violence against girls, child labour, child marriage and early pregnancy. Due to the lost of family income, children from poor households require to work and at risk of dropping out or out-of-school. Immense obstacles contribute by the pandemic demand tremendous initiatives from all the Five Cluster Countries to realign the education policy and plan to guarantee the attainment of SDG4 2030 agenda.

LIST OF ABBREVIATIONS

ASEAN	Association of South-East Asian Nations
BC GCE 'O' Level	Brunei Certificate General Certificate of Education: Ordinary Level
CfBT	the Centre for British Teachers
DESD	The Education for Sustainable Development Decade
ECCE	Early Childhood Care and Education
ECED	Early Childhood Education and Development
ELLNA	Early Language Literacy and Numeracy Assessment
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GNI	Gross National Income
HGP	Homeroom Guidance Program
ICT	Information and Communication Technology
IMPACT	Instructional Management by Parents, Community and Teachers
ISCED	International Standard Classification of Education
ISESCO	Islamic Educational Scientific and Cultural Organization
JHS	Junior High School
KSSM	*Kurikulum Standard Sekolah Menengah*
KSSR	*Kurikulum Standard Sekolah Rendah*
KWAPM	*Kumpulan Wang Amanah Pelajar Miskin*
LINUS	Literacy and Numeracy Programme
MAK	*Madrasah Aliyah Kejuruan*
MDG	Millennium Development Goals
MEYS	Ministry of Education, Youth and Sports
MIB	*Melayu Islam Beraja*
MoEC	Ministry of Education and Culture
MORA	Ministry of Religious Affair
MT	*Madrasah Tsanawiyah*
MTB-MLE	Mother Tongue Based Multilingual Education
NKRA	National Key Results Area
OECD	Organisation for Economic Co-operation and Development
OSPD	Outline Strategy Policy Directions
PISA	The Programme for International Student Assessment
PPP	Purchasing Power Parity
PSR	Primary School Assessment
RELA	Reading and English Language Acquisition
SAP	Special Applied Programme
SAT	Student Assessment Tracker
SCP	Special Curricular Program
SDG4	Sustainable Development Goal 4
SHS	Senior High School
SJKC	*Sekolah Jenis Kebangsaan Cina*
SJKT	*Sekolah Jenis Kebangsaan Tamil*
SK	*Sekolah Kebangsaan*
SMA	*Sekolah Menengah Atas*
SMK	*Sekolah Menengah Kejuruan*
SPM	*Sijil Pelajaran Malaysia* – Malaysian Education Certificate
SPN21	*Sistem Pendidikan Negara Abad Ke-21*

STEM	Science, Technology, Engineering and Mathematics
TLE	Technology and Livelihood Education
TVET	Technical and Vocational Education Training
TVL	Technical-Vocational-Livelihood
UN	United Nations
UN	*Ujian Nasional*
UNESCO	United Nations Educational, Scientific & Cultural Organization
UNICEF	United Nations Children's Fund
UPSR	*Ujian Pencapaian Sekolah Rendah*
VILIS	Virtual Library Information System
WASH	Water, Sanitation and Hygiene Education

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1.0 INTRODUCTION

The SDG4-Education 2030 Agenda is primarily the responsibility of governments, UNESCO and partner organizations to assist with organized policy direction, technical assistance, capacity building and monitoring at global, regional and national levels. UNESCO has a vital role to play in providing such support at the national level along with its designation. Consequently, they require not only sufficient technological capacity but also collaborations between governments to carry out their goals. Although there are obstacles for education systems in the time frame of this agenda, there is an opportunity for efforts to achieve quality education globally. It will cover sector-wide policy and plan, technical and vocational education training (TVET), teacher education, inclusive education, and sustainable development education. This chapter focuses on compulsory education starting from early childhood to secondary education and on collaborations with the public and private sectors, and NGOs, literacy and numeracy, as well as the issue and challenges to match education policies with the SDG4-Education 2030 agenda.

2.0 SECTOR WIDE POLICY AND PLAN

Sector-Wide Policy and Plan in this chapter refers to the core sectors relating to education starting from early childhood to secondary education that is comprehensive, holistic, ambitious, aspirational, universal, transformative, and leaving no one behind. SDG4-Education 2030 Agenda is introduced to ensure that the education sector is equal to boys and girls, possess quality, free, equitable, relevant, and effective. To determine the listed criteria, indicators are established to facilitate the detection of whether nations have accomplished the amended agenda. These indicators will be explored within the official documents varies from UNESCO, OECD, World Bank, ministerial and strategic plan reports, and articles related to sector-wide policy and plan. Indicators such as student's enrolment in each education level, the ratio of pupils per teacher, achievement of nations in national and international assessment, ratio between gender in access to education and others will be exhibited. Affirmation of the analyzed documents will be triangulated using surveys and interviews with policymakers and enablers.

The discussion will be focused on the alignment of the existing or in plan education policy with SDG4- Education 2030 Agenda and partnerships of Government with public and private sectors, and NGOs. Efforts of countries in localizing directly and indirectly of SDG4-Education 2030 Agenda in education policy and the implementation of the proposed policy will be reviewed. There were some concerns reported in APMED 2018 Survey in mapping the SDG4-Education 2030 Agenda. The agendas are not directly apart of education policy, policy implementation is frail or not executed, primary and secondary education is not free, and no emphasis on rights-based education. Consequently, deliberation of this review will be tackled to answer questions below:

i. Does sector-wide policy and plan at early childhood to secondary education provide equal access to boys and girls?
ii. Does sector-wide policy and plan at early childhood to secondary education provide quality education for all?
iii. Does sector-wide policy and plan at early childhood to secondary education is free for boys and girls?
iv. Does sector-wide policy and plan at early childhood to secondary education are equitable?
v. Does sector-wide policy and plan at early childhood to secondary education are relevant (current to 21st-century demands)?

    vi.   Does sector-wide policy and plan at early childhood to secondary education is effective?

    vii.   What is the level of literacy and numeracy of each nation?

    viii.   What are the challenges faced in implementing sector-wide policy and plan at early childhood to secondary education?

3.0   METHODOLOGY

Document analysis majorly used in this chapter to define policies for all sectors of education systems aligned with UNESCO's SDG4-Education 2030 Agenda and to reflect the commonality and uniqueness of the initiatives implemented in all five countries. Document analysis is a method of a qualitative study in which the researcher defines documents to give legitimacy and meaning to the evaluation subject and examines documents, integrating coding material into topics similar to focus group analysis or interview transcripts (Bowen, 2009). Official documents are the primary form of documents discussed in this chapter. Many sources include vision statements, financial reports, policy guidelines, strategic plans, and journals. Document analysis is a social science approach and is a valuable research technique and an invaluable part of most triangulation systems, a mixture of methodologies in the study of the same phenomenon. The purpose of content analysis (Figure 1) is to perform a qualitative analysis of printed and electronic (computer and web-based) material. However, the discussion in this chapter is only focusing on facts and figures to seek commonalities and uniqueness of policy and plan with the SDG4-Education 2030 Agenda, challenges and recommendations not depending on the interpretation of the researcher. There are five aspects discussed in this chapter; (i) early childhood education; (ii) primary education; (iii) secondary education; (v) literacy and numeracy; and (vi) policy challenges. Efforts in collaboration through partnerships by Government also will be reviewed. To achieve consensus and corroboration, multiple sources are used in this chapter, and corroborating results through data sets can minimize the impact of bias by assessing information gathered through a variety of methods such as surveys and interviews.

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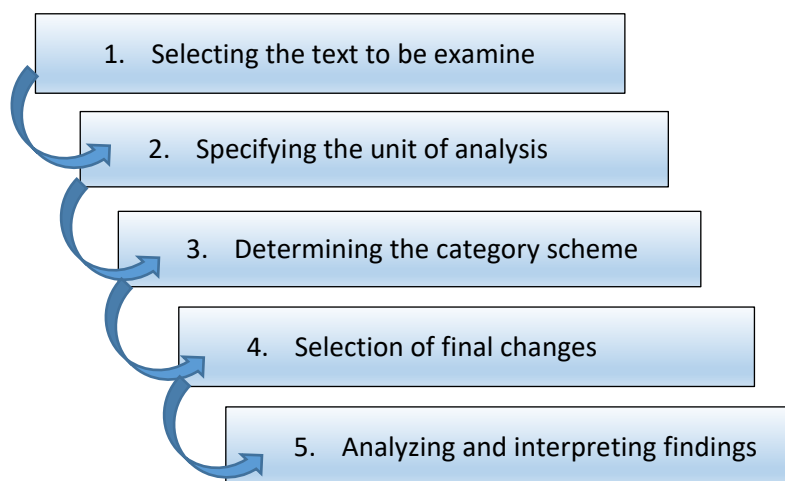
Figure 1: Content analysis process
Source: Nasir & Avunduk (2011)

4.0 ANALYSIS BY COUNTRIES

Based on the document analyses, the discussions of the findings are explained by countries according to the educational sectors. Primarily, the overview of policy and plan to cater the need of the 21st century and the alignment with UNESCO's SD4-Education 2030 Agenda will be interpreted. Triangulation of findings through surveys and interviews with policymakers and enablers to explore challenges faced in implementing initiatives and recommendations to improve future undertakings.

4.1 BRUNEI DARUSSALAM

Brunei Darussalam is in the Southeast Asia, in the Northwest of Borneo Island, with a population of 429 thousand people (2018) and an area of 5765 km^2 and, comprising a majority of 65.8% of the Malay indigenous population, the second largest being 10.2% of the Chinese community. Summary of Brunei Darussalam socio-economic indicators is shown in Table 1. Brunei is a small, independent, oil-rich country nestled between Sarawak and Sabah on the Malaysian side of Borneo Island in South East Asia. The official language of Brunei is Malay, English and Chinese are spoken in Brunei, as well. English is commonly understood and used for commercial purposes. Bahasa Melayu was declared the official language of the country and is used in official contexts such as informal speeches and intergovernmental organization letters, as well as in the media, such as radio and television. Bahasa Melayu has been advocated as a medium of instruction and taught as a compulsory subject in schools alongside English. The currency used in Brunei is the dollar of Brunei (BND). Since becoming independent of the British in 1984, Brunei has continued its efforts to become a member of several regional and international organizations, such as the Association of Southeast Asian Nations (ASEAN), the Commonwealth, the Organization of the Islamic Conference, and the United Nations.

Table 1: Brunei Darussalam socio-economic indicators

Total population (in thousands)	429
Annual population growth (%)	1.0
Population 15-24 years (in thousands)	70
Population aged 14 years and younger (in thousands)	99
Rural population (% of the total population)	22
Total fertility rate (birth per woman)	1.80
Infant mortality rate (per 1,000 infants)	10
Life expectancy at birth (years)	76
GDP per capita –PPP$	64,673
Annual GDP growth (%)	3.90
GDP in billions – PPP$	28

Source: (http://uis.unesco.org/en/country/bn)

4.1.1 Overview of Brunei Darussalam's Education

Brunei is a tax-free country, and its citizens have the opportunity of receiving free basic education and health services. The formal education system in Brunei Darussalam (Figure 2) has a 7-3-2-2 pattern reflecting seven years of primary education, including one year of pre-primary education, three years of lower secondary, two years of upper secondary or vocational or technical education and 2 years of

pre-tertiary education (Mohamad et al., 2018). All students will have a similar curriculum and will sit for the Primary School Assessment (PSR) at the end of Year 6. Students who have achieved five A's in their PSR will be appointed to science schools. Students that have been categorized as having special educational needs need a program that is changed and tailored to their abilities and requirements based on the Individualized Education Plan (IEP) and the Remedial Education Plan (REP). The Individualized Education Plan (IEP) is tailored for students diagnosed with unique educational needs, particularly those with high support needs. The Remedial Education Plan (REP) is specifically intended for students with learning disabilities, especially in necessary skills such as reading, writing and mathematics. At the secondary level, students will pursue 4 to 5 years of schooling following the standard curriculum and facing BC GCE 'O' Level examination.
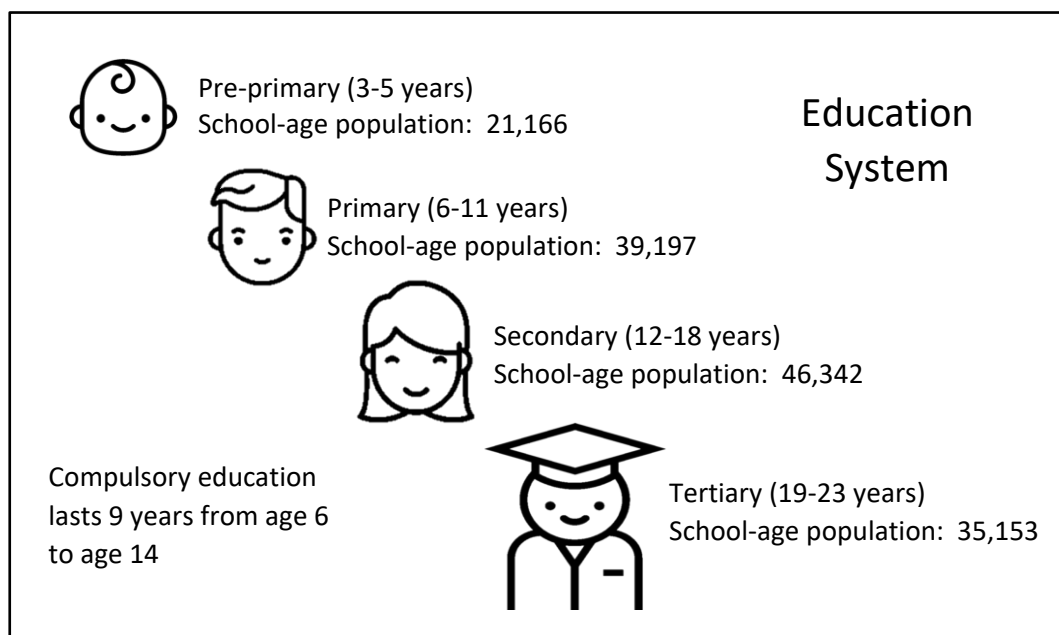
Figure 2: Brunei Darussalam education system
Source: (http://uis.unesco.org/en/country/bn)

Brunei Darussalam education is free during the nine years of compulsory education. Due to the high expenditure on education, the enrolment of a student in each level of education is increasing from year to year and a deficient percentage of repeaters (less than 0.2%). Based on Table 2, female children have longer school life expectancy than male children, and 95.41% completed their primary education, also 99.80% of students transition from primary to secondary education. The Government offers a monthly education allowance of B$120.00 for each child aged 5 years and over per month, but only for citizens and permanent residents who are government employees who want to send their children to private institutions. Low-income citizens may apply for additional government funding for their children's educational needs in government schools (Mohamad et al., 2018). Capabilities of Brunei Darussalam to provide sound facilities for education has facilitated the country to achieve expected policy and plan as amended in the SPN21 and aligning with SDG4-Education 2030 Agenda. In this current era, many factors need to be considered in the strategy formulation to reform education towards the construction of a new education system, such as the development of technology with its rapid use for changes in the environment that interact with social implications.

Table 2: Progress and completion in Brunei Darussalam education

	MALE	FEMALE	TOTAL	Recent data (year)
School life expectancy ISCED 1-8 years	13.89	14.78	14.31	2018
Percentage of repeaters in primary (%)	0.11	0.05	0.08	2018
Survival to the last grade of primary (%)	94.02	92.3	95.41	2017
Gross intake ratio into the last grade of primary (%)	107.6	108.38	107.98	2018
Primary to secondary transition rate (%)	100	99.59	99.80	2017

Source: (http://uis.unesco.org/en/country/bn)

The National Education System for the 21st Century (SPN21) was introduced in January 2009 to better equip Bruneians for the 21st Century (Sharbawi & Jaidin 2019). Brunei Darussalam's Ministry of Education (MoE) is committed to delivering an education system that will prepare the young generation for future roles as a capable, creative, reflective, and inventive people who will uphold local social values deeply rooted in the national philosophy of the Malay Islamic Monarchy or the *Melayu Islam Beraja* (MIB) concept. Several improvements have been made along the way in responding to developments both nationally and globally. Students must spend their professional life in a multi-tasking, multi-faceted, technology-driven, complex, and dynamic climate and must be prepared to do just that. Today's education system is facing insignificance as we close the gap between how students learn and how they survive, and what is ideal today might not be the same in the future. Looking forward to the vision 2035, eight Outline Strategy Policy Directions (OSPD) strategic education plan is promoted, which are translated into the Education Reform as illustrated in Figure 3.

The Ministry of Education Brunei has launched a strategic plan for 2018 to 2022 to achieve three objectives: i) to transform human resource organizations into a culture driven by performance; ii) to provide equal access to quality education; and iii) to strengthen shared accountability with stakeholders in the development of teaching and learning. The education sector has become the essential investment in bringing to a prosper Brunei Darussalam and capable of competing internationally. Brunei Darussalam Strategic Plan 2018-2022 has nine initiatives (Ministry of Education Brunei, 2018):

i) Develop and implement a clear succession plan strategy.
ii) Develop and implement a comprehensive human resource development strategy.
iii) Promote quality in early childhood or pre-primary education.
iv) Strengthen the delivery of basic education from primary to secondary education.
v) Improve the quality and access to post-secondary education.
vi) Improve inclusion of disadvantaged and at-risk learners at every education level.
vii) Improver opportunities to lifelong learning.
viii) Strengthen and sustain international collaborations and integration.
ix) Strengthen and sustain linkage with relevant external stakeholders.

Student enrolment forecast for 2008-2028 shows a rising pattern indicates that the Bruneians have realized how vital education to their lives. According to the projection, the percentage of growth is projected to be about 78%. The total number of students studying at the primary level in 2008 was around 45,000, and this figure nearly doubled around 80,000 in 2028. The forecast for enrolled secondary students was about 40,000 in 2008, and in 2028 the figure will increase to about 70,000 a

total of 1,5000 as an annual gain at about 75%. Pre-university enrolment in 2008 was over 6,000, and by 2028 it was projected to grow to more than 13,000, a percentage increase of nearly 120%. SPN21 has ensured that the Bruneians will be equipped with the knowledge and skills needed for the 21st century through quality, accessible and equitable education.
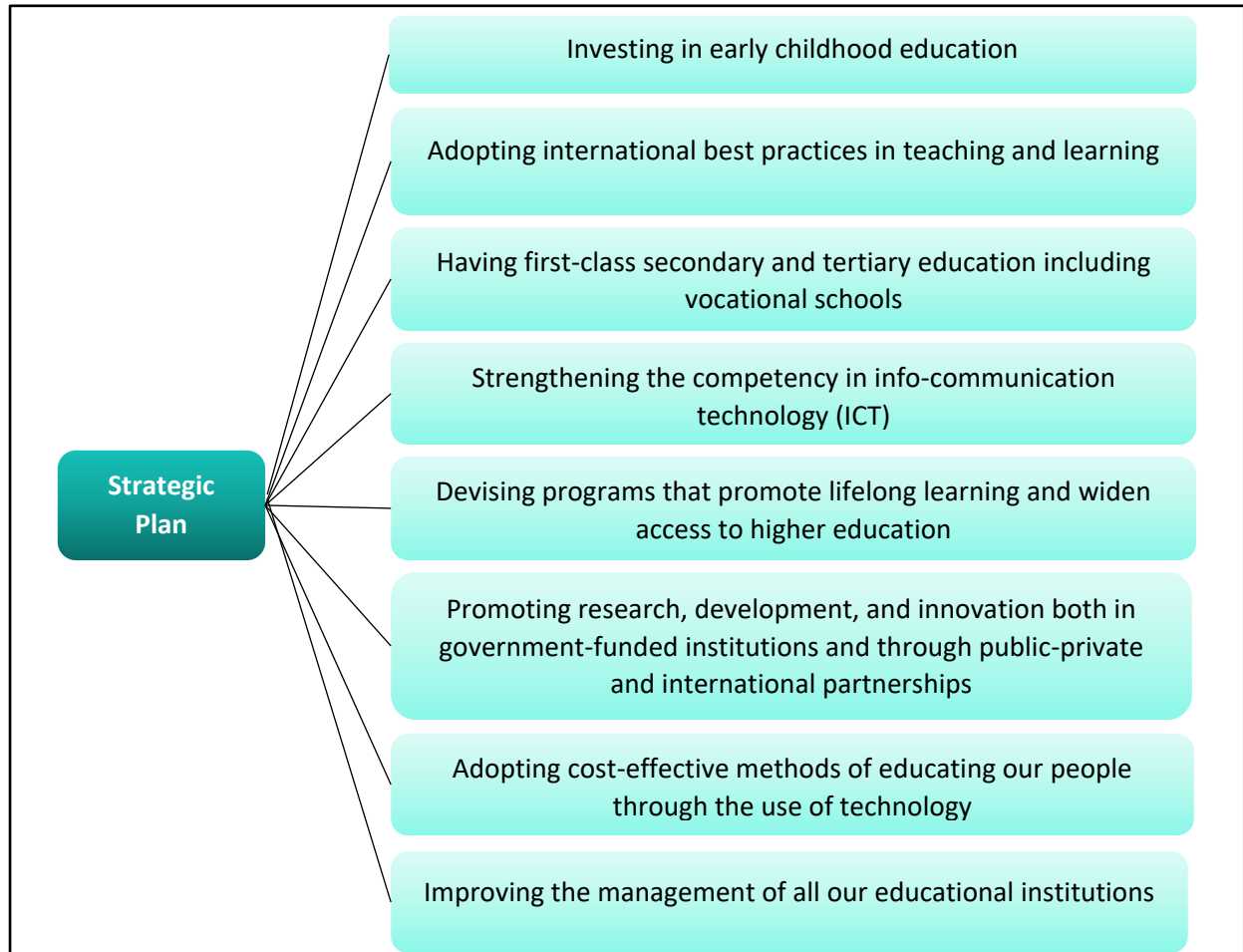
Figure 3: National Education System SPN21 Strategic Plan
Source: Ministry of Education Brunei Darussalam (2013)

4.1.2   Early Childhood Education

Early childhood education in Brunei Darussalam plays an essential role in preparing children for primary education equipped with the holistic development of the cognitive, affective, psychomotor, social, and spiritual domains. Brunei Darussalam's emphasis on literacy and numeracy skills, creativeness, and enjoyable learning aims to create an appropriate and sensitive atmosphere for all children. Since 1979, the Brunei Darussalam government has offered free preschool to 5 to 6 years old in the year before the formal primary school begins. These state-funded preschools are attached to government primary schools and execute a curriculum that is intended to assist children in the acquisition of basic learning skills needed for successful entry into primary schools. The Education Order 2003 also requires the provision of 1 year of free compulsory pre-school education in public schools for children aged between 5 and 6 years (Mohamad et al., 2018).

The Ministry of Education's Strategic Plan 2007-2017 prioritizes early childhood care and education (ECCE), with enhanced attention on public and private provision for helping children aged 3-6 years by establishing the ECCE unit in June 2010. Early childhood education is a foundation stage focuses on socio-emotional and personality growth and prepares learners for primary education. SPN 21 emphasis on the key factors that need to be addressed in the teaching and learning process at an early stage is to i) inculcate an interest in exploring the environment; ii) emphasize spiritual, emotional, and social development; iii) emphasize cognitive development; iv) emphasize the development of motor skills and coordination; v) emphasize the mastery of language and numeracy skills, and vi) develop creativity and fun in every activity (Ministry of Education Brunei, 2013).

The overall number of pupils per teacher in early childhood education is below 16.0 (Figure 4) and the world ratio is at 17.45%, and 63.7% trained teachers in pre-primary education Brunei in 2019 (data.worldbank.org). Realizing this, the Ministry of Education Brunei established the health care and governmental preschool education systems to extend all children's scope. The Childcare Center Order 2006 dictates the registration, surveillance, and inspection of private childcare centres for children under the age of five years old and clear guidance to childcare centres on aspects such as health and safety. The 18-month Early Childhood Education (ECE) certificate was first adopted in 1993 and it was intended to improve teachers' knowledge of early learning and development of young children aged 8 years and older (Mohamad et al., 2018). Progress has been made in drafting legislative, regulatory, and quality assurance standards, including the ECCE system.

Number of pupils per teacher in pre-primary education

Year	Value
2014	17.02
2015	17.07
2016	15.38
2017	16.22
2018	15.43
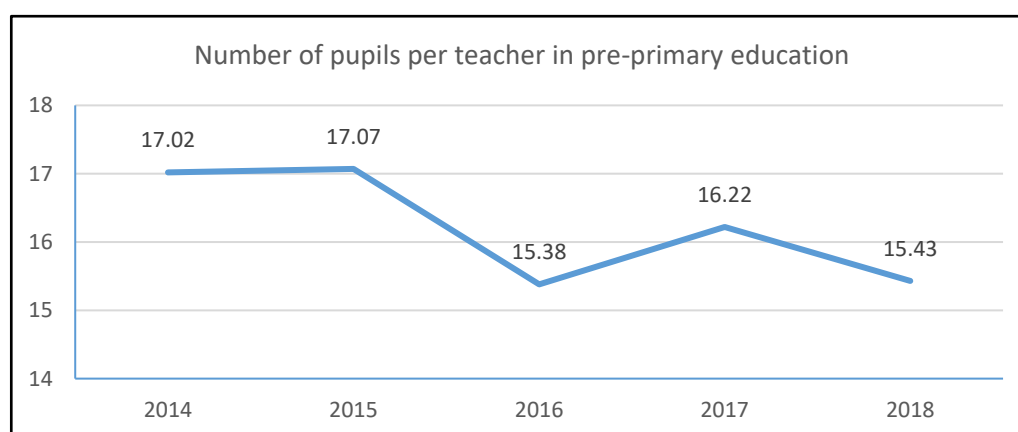
Figure 4: Brunei Darussalam number of pupils per teacher in pre-primary education
(Source: http://uis.unesco.org/en/country/bn)

In 2011, the ECCE Unit also launched the 'Yearly School Readiness Program,' which was run every November until the beginning of pre-school in January. Crafted to smooth the transition to pre-school for new entrants, this curriculum has been created in response to the common concerns raised by pre-school teachers that many children are struggling through the first few weeks of the academic year as they step into formalized early learning environments in which they are quite uncertain (Mohamad et al., 2018). The first national Program of Professional Development Capability for Preschool Teachers was established to enhance early childhood teachers' capacities, the ECCE unit, through the enhancement of teaching quality of 204 government preschool teachers and 499 private preschool teachers, facilitators, and mentors throughout four districts. The development of a curriculum for 3- to 4-year-olds and the project Brunei Darussalam Nationwide University to collect data on the Brunei interests of young children, involving different levels of the society, and the ECCE

curriculum system is covering five development areas introduced by the MoE based on the current SPN21 curriculum guidelines.

4.1.3   Primary Education

The primary education level starts at the age of 6 and ends at the age of 11. The first stage starting from Year 1 to Year 3 emphasizes the mastery of the 3Rs (reading, writing and arithmetic), socio-emotional development and personality building, and moves towards thinking skills and creativity which will enable students to i) develop the 3Rs and communicate effectively in Malay and English; ii) foster a culture of love for reading; iii) foster social skills and cooperative attitudes, mutual respect for others, reasoning ability and problem-solving skills; iv) equip themselves with the basic skills of utilizing information and communication technology (ICT) to learn; v) identify concepts, objects and develop ideas and creativity; and vi) develop spiritual and aesthetic sensitivities.

The second stage of primary education starts in Year 4 to Year 6. that allows learners to apply the 3Rs to develop essential and complex skills and knowledge, personality, attitudes and values and manipulation of intellectual, logical and critical thinking to: i) master and apply 3Rs skills and communicate effectively in Malay and English; ii) master and understand the basic scientific and mathematical concepts; iii) participate actively in group work and strengthen emotional growth and physical fitness; iv) apply ICT skills in learning; v) develop knowledge, ability to think and solve problems independently; vi) develop positive attitudes and values, learn to care about the society and environment and recognize and understand their identity, race, religion and nation; and vii) develop and foster interest in culture and arts.

The enrollment of students in primary education decreases in number for the past three years from 2016 to 2018 (Figure 5). The number of pupils per teacher in primary education Brunei is 9.9 children per teacher (Figure 6), lower than the world ratio of 23.44. It shows that the students receive an effective and quality education due to teachers' capability to take good care of each student. Based on (data.worldbank.org), in 2019, 86.6% of Bruneians primary teachers were trained compared to the world average of 81.0%. The primary education of Brunei Darussalam is free and equitable to all children, possesses a quality, relevant to the current needs, and effective. Withal, based on the survey teachers concerned about resources of teaching are not enough in some schools. Primary school teachers school still burden with multitasking schoolwork with fewer parents support in monitoring their children learning. Teachers are struggling to cope with the high expectations of the new curriculum. They also have to ensure that the students will succeed in their tests and examinations and teaching, and learning tend to be examination oriented.
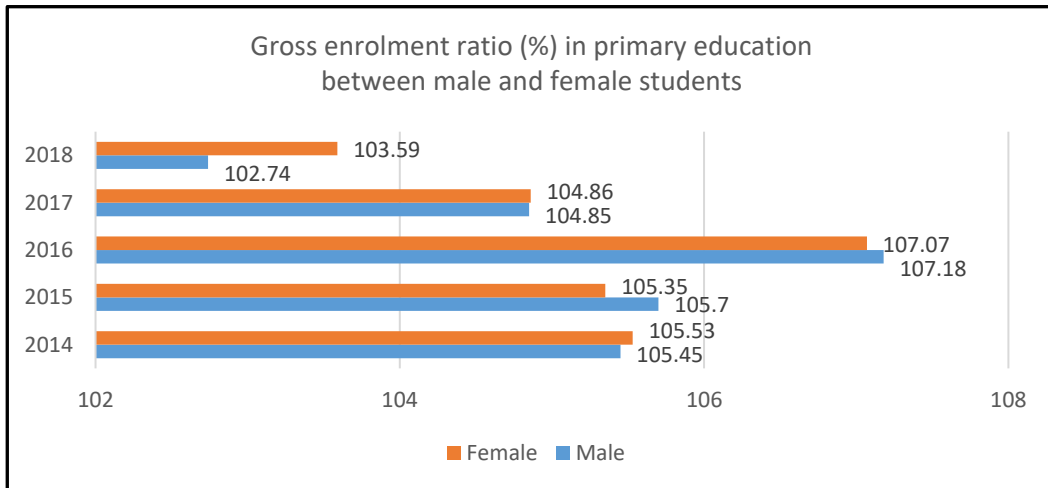
Figure 5: Brunei Darussalam gross enrolment ratio (%) in primary education
between male and female students
Source: (http://uis.unesco.org/en/country/bn)
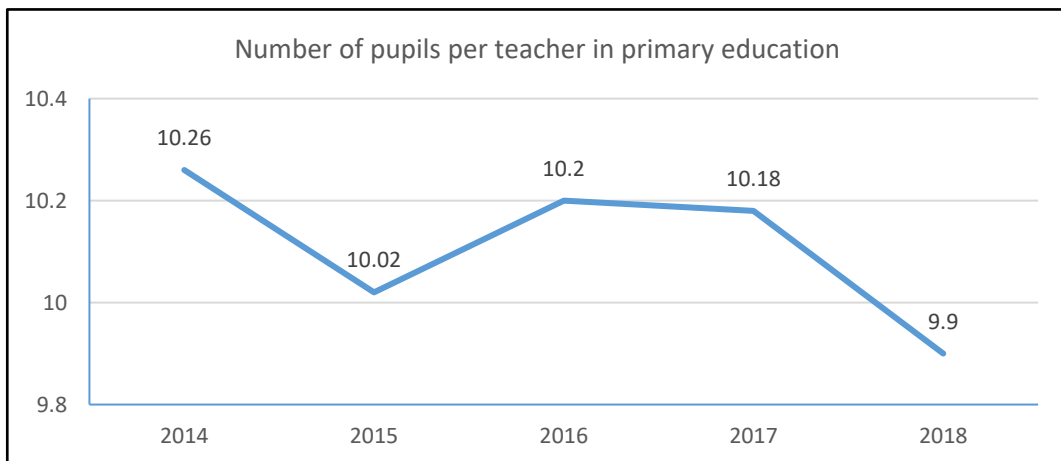
Figure 6: Brunei Darussalam number of pupils per teacher in primary education
Source: (http://uis.unesco.org/en/country/bn)

4.1.4   Secondary Education

The education system of SPN21 varies in secondary education from the previous education framework. Students will be assigned to either the 4-year (7-10 year) program or the 5-year program (7-11 year) program at secondary school. Students on a 4-year (Year 7-Year 10) program will sit at Year 10 for their BC GCE 'O' level, while those on a 5-year program will sit at Year 11 for their BC GCE 'O' level. For the first two years of secondary education, all students in both programs will follow a standard curriculum (Year 7 and Year 8) (Figure 7).
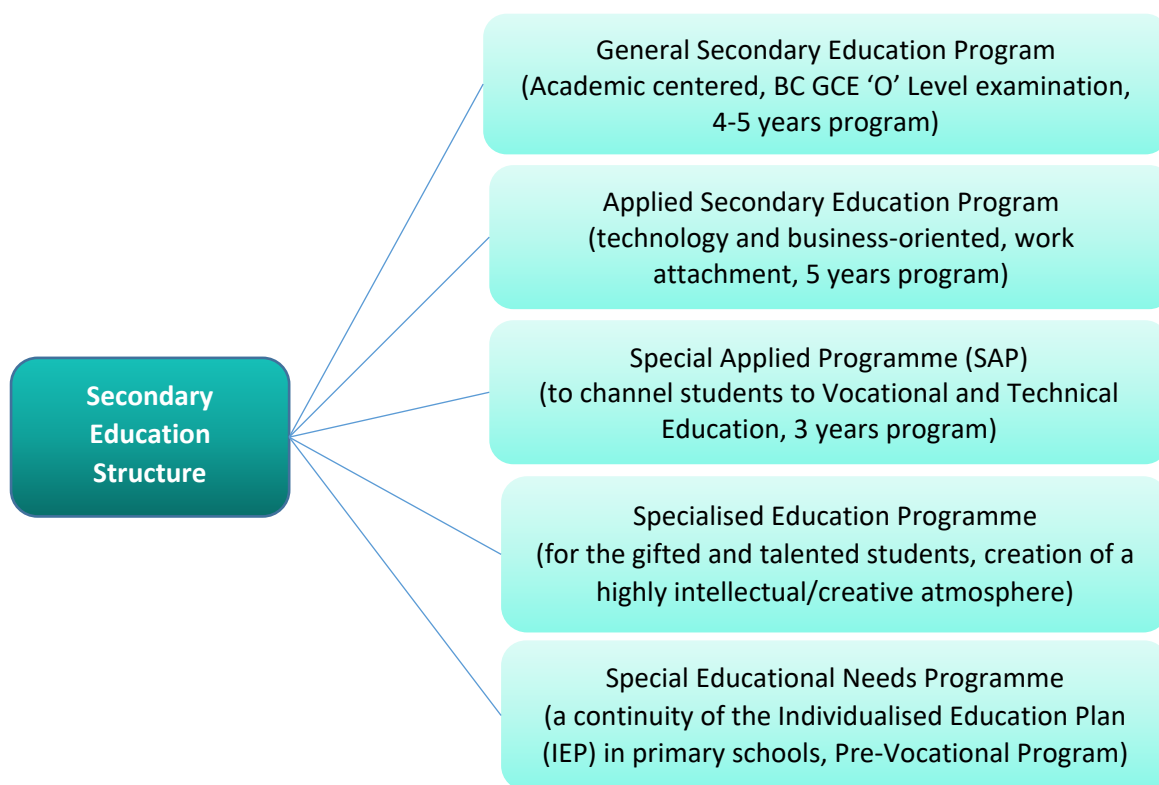
Figure 7: Brunei secondary education structure
Source: Ministry of Brunei Darussalam (2013)

Enrolment in secondary education indicates a rise in 2017 to 2018 and the number of female students is higher than that of male students by 2.2% in 2018 (Figure 8). Encouraging high enrolment in secondary education Ministry of Education Brunei has developed a modern concept hostel by accepting students from disadvantaged and low-income households, students with outstanding academic results, and students willing to stay in the host school. It is presumed that the students would develop a positive character, giving them the ability to be more independent, pleasant, understanding, and supportive amongst their peers and to be more cooperative to each other in academic and non-academic affairs, even though their backgrounds are different. Besides, improvements will be made to the hostel facilities to provide a more comfortable place for students to feel secure and provided with nutritious and balanced foods. Resources such as support, and counselling are available to students in need of academic excellence. Nonetheless, the number of supervisory teachers would be extended to monitor students during study sessions and to assist students in the event of problems in the study of a particular subject. Students will have broadband wireless internet connectivity to allow them to use the internet to study.
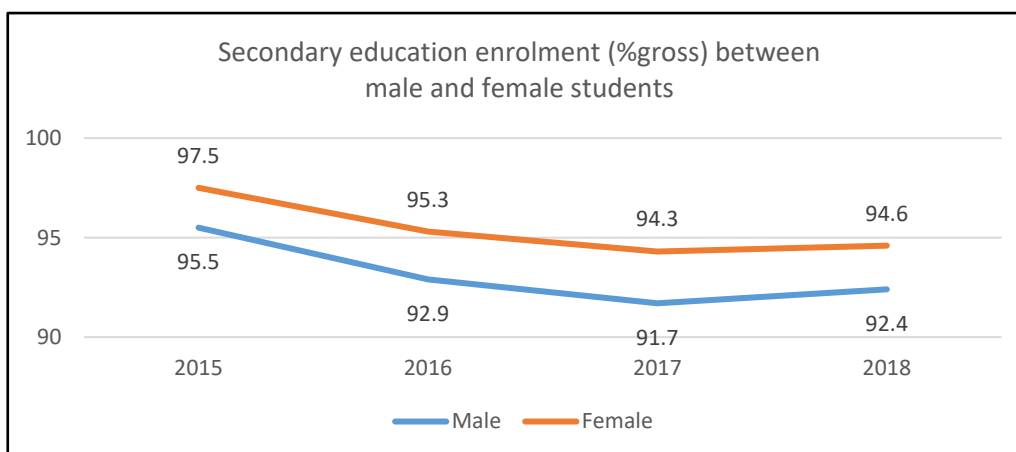
Figure 8: Brunei Darussalam secondary school enrolment (% gross) between male and female students
Source: (http://uis.unesco.org/en/country/bn)

After completing Year 10 (4-year programme) and Year 11 (5-year programme), students can select different programmes and learning styles based on their talents, interests, preferences and needs. At the same time, applicants must follow certain requirements set out by the institutions that offer certain programmes and courses. The numerous programmes offered in post-secondary education include Nursing Education, Pre-University, Specialized Education and Vocational and Technical Education. The Ministry of Education has introduced primary, secondary, and technical model schools. These model schools will become 'exemplary schools,' assessing and implementing ground-breaking curricula principles of advanced education in various area. Resources, like greater autonomy and transparency, are also offered. Public cohesion would increase with the capacity building of educators and administrators. Model schools might make niches in a variety of fields, particularly ICT, mathematics, science, and languages. Schools should, therefore, speed up the implementation process, reinforce SPN21, and eventually achieve their priorities and objectives more effectively than other schools through their skillful leadership and support resources.

Tremendous efforts set by the Ministry of Education Brunei to ensure the quality and effectiveness of secondary education by recruiting more teachers to accommodate students' needs. The number of pupils per teacher is very low compared to other regional countries at 8.27 and lower than the world average of 17.0 (Figure 9). The percentage of trained secondary education teachers is 90.3% higher than the world average of 78.0%. To encourage teachers to be in the profession and develop new skills Ministry of Education Brunei provides a clearer pathway for educators by equipping various teacher training programs, an attractive scheme of service, the development of professional teaching standards and school leadership development. School principals in Brunei Darussalam reported less shortages of staff and more shortages of materials than the OECD average and school principals in disadvantaged schools reported shortages of staff more frequently than principals in advantaged schools. 39 % of students enrolled in a disadvantaged school and 4% of students enrolled in a privileged school attend a school whose principal indicated that the school's capacity to provide instruction is hindered, at least to some degree, by a shortage of teaching staff (OECD, 2019).
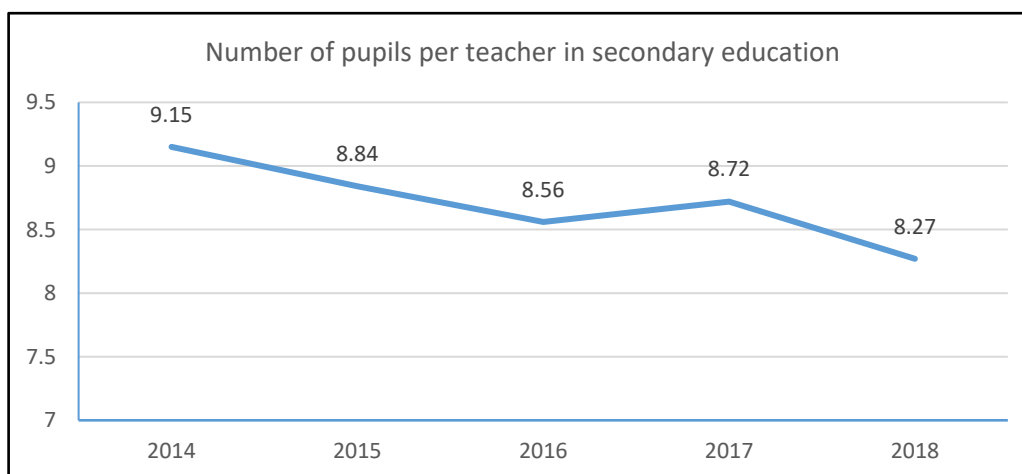
Figure 9: Number of pupils per teacher in secondary education
Source: (http://uis.unesco.org/en/country/bn)

4.1.5   Literacy and Numeracy

The importance of literacy and numeracy has been reflected in the SPN21 from pre-school to secondary school. In the entire first half of 2016, the Literacy and Numeracy Coaching Program (LNCP), a three-year joint project between the Ministry, the Center for British Teachers (CfBT) and the Education Development Trust (EDT), was launched through the recruitment of 5 international coaches to 24 primary schools that conducted literacy and numeracy evaluations for teachers and pupils. Early programmes include the Integrated Approach to Reading Acquisition (TIARA) for pre-school and primary education in 2009 and the Pre-school English Interim for Government Pre-school Program in 2010, all of which concentrated on enhancing reading skills through the improvement of listening and speech skills (Sharbawi & Jaidin 2019).

The LNCP was fully introduced in January 2017, with the recruitment of 60 foreign coaches sent across the country to 155 schools where they observed and monitored lessons, provided teaching demonstrations, provided input, and contribute training for local teachers. Focusing on 'mastery teaching, the LNCP was entrusted with educating up to 200 local teachers or learning partners by the end of 2019. Another programme established under the SPN21, which operates in partnership with the LNCP, is the Literacy and Numeracy National Standard (LNNS), which seeks to recognize and resolve the level of literacy and numeracy skills of students (Sharbawi & Jaidin 2019). As a result, the Student Assessment Tracker (SAT) has been described as a national student measurement' which functions as a summary assessment to be used in a constructive manner' and has been implemented to complement this initiative. The assessment measures the abilities of students in literacy and numeracy as well as in science and is conducted to all students from year 1 to year 11.

The Programme for International Student Assessment (PISA) is a triennial assessment of 15-year-old students evaluating the degree to which they have gained key knowledge and skills necessary for full participation in society. The assessment focuses on proficiency in reading, mathematics, science, and an innovative domain (in 2018, the innovative domain was global competence), and on students' well-being. Brunei Darussalam participated for the first time in PISA 2018, and their average is below OECD average, but higher than OECD average in share of low achievers in reading and share of low achievers n mathematics. The average gap in reading output between immigrant and non-

immigrant students in Brunei Darussalam was 73 points in favour of immigrant students (Figure 10). After accounting for the socio-economic profile of students and schools, the gap decreased to 25 points (OECD, 2019). However, the average score of Bruneians' children is below than OECD average for reading, mathematics, and science. Realizing this, SPN21 put on emphasis to teach higher order thinking skills (HOTS), reasoning skills and problem-solving skills.
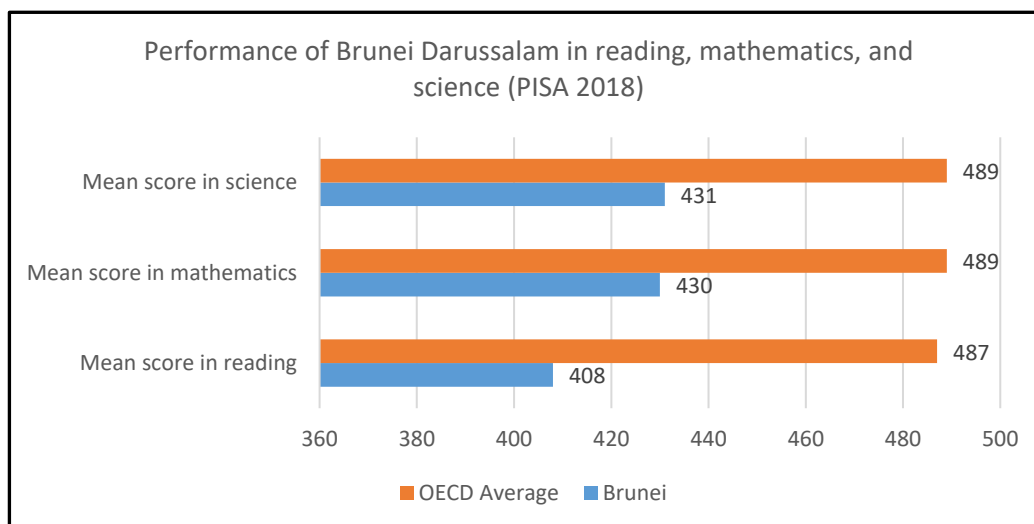
Figure 40: Performance of Brunei Darussalam in reading, mathematics, and science
Source: OECD (2019)

The number of illiterates in Brunei Darussalam is very low only 203 individuals consisting of 133 males and 70 females in 2018 and the percentage of literate individuals at the age of 15-24 years old is 99.79% (uis.unesco.org). This is due to the higher chances that all Bruneians have to basic education and the effectiveness of the policy and plan, including the SPN21. Initiatives instituted to boost literacy and numeracy by the Ministry of Education Brunei Darussalam by launching Specialized Strategy Projects for Pedagogical Approach Malay and English Language Literacy Programme for Primary Schools This programme was introduced to improve the literacy level for both languages using phonics at Preschool (2009), Year 1 and Year 2 (2010). Sustainability of the Reading and English Language Acquisition (RELA) approach in Teaching and Learning English Language RELA approach continues in Primary 3 and Primary 6 (2010). The Reading Programme is linked to the Virtual Library Information System (VILIS) project and national library guidelines to nurture the love for reading. Taking together will lead to the formulation of comprehensive national policies and plans to promote a reading culture in the schools and the community. Several programmes were initiated to improve the teaching skills in mathematics for teachers at Primary and Secondary level which include: i) Primary Numeracy Initiative of In-service Training of Mathematics Teachers (PNI-INSET); ii) Lesson Study Project Group (LSPG); iii) Problem Solving and Mathematical Thinking; and iv) Mental Computations.

4.1.6   Brunei Darussalam Response to COVID-19 Pandemic

The Brunei Darussalam government promptly announced temporary closures of schools and higher education institutions after the first documented case of COVID-19 in Brunei on 9 March. It introduced health and safety precautions and social distancing measures as a new normal. Brunei

Darussalam educational institutions have switched exclusively to online teaching and learning from around the middle of March. To respond appropriately to the current situation, the Ministry of Education Brunei Darussalam had to find ways to integrate various distance communication and online teaching and learning initiatives. Fortunately, Brunei started reporting zero infection cases and reported successfully "flattened the curve" after May 7. Consequently, on 2 June, schools and higher education institutions were partially reopened and have been able to operate normally since 27 July.

However, in the case of teaching, learning and pedagogical methods, Brunei educational institutions are given choices to do what is best for them, their circumstances, their teachers, and students. They also created multiple action plans and steps, from completely face-to-face training to different ways of interactive learning. Yet, there are some difficulties faced in the new normal environment regarding the implementation of remote learning as stated below:

i)   Technology gap in distance learning.
- Teachers encountered a range of obstacles in the application of technology and connectivity, distance learning, competency problems, and social mobility.
- Some students do not possess any gadget for online learning and the internet.
- Online learning is not suitable for younger children yet to master language, character building, communications, and need full monitoring from parents.
- Teachers have also found themselves unable to learn from and adjust to online teaching when seeking to help their pupils.
- Less support from parents to provide tools for online learning and monitoring their children's learning.
- Students attitudes to adapt to the new normal and do not have the motivation to learn and what is the reason to learn during this pandemic.

ii)   Unreliable internet connection
- Teachers and students struggle to hold for online classes due to weak internet connection and to have sufficient internet data.
- Teachers faced problems in participating in online meetings, administrative matters, and students' assessment because it took a long time if the line is unsteady.
- Some student and parents cannot afford to have good internet line.

Recommendation to response to the COVID-19:
- Reducing or modifying the current curriculum or leniency to complete the syllabus to accommodate the new normal to lessen learning loss.
- Rapid exchange of virtual teaching and learning ideas and materials generated by social media and mobile applications, which contributed greatly to developing a supportive atmosphere for virtual learning experiences to be preserved.
- Delivering information via television, radio, house visit and social media to the school community on how to deliver lessons at home.
- Providing free or cheaper package for internet data.
- Multiple approaches in teaching and learning online (Google Meets, Zoom), non-online (Home Learning Package).
- Immediate training and support technically, emotionally, and morally to teachers, students, and parents.

The pandemic has many opportunities for teachers to diversify teaching methods. Teachers in Brunei had found that students prefer to participate more often as they enjoyed online learning during months of social isolation. Maintaining verbal communication between teachers and students not only for academic purposes but also for technical and emotional support across digital and non-digital platforms is a must. Younger children should be addressed because they need basic knowledge and skills, and socially learn in schools through example. Many educators attempted to innovate their teaching methods with new techniques and platforms to ensure their pedagogical methods are successful, but also to maximize the opportunity to adjust how they execute the instruction. The need to incorporate technologies and online learning platforms into the educational system is intense, as demonstrated by the pandemic occurrences. During COVID-19, not only is the reconciliation part of a safety phase, but it also meets the world's desire to implement I.R 4.0 as part of Brunei's nation-building efforts.

4.1.7   Findings

This section highlights to what extend the education of Brunei Darussalam has accomplished to align their policy and plan with the SDG4 2030 goals. There are six indicators that the survey will try identifying whether the early childhood education, primary education and secondary education is: i) accessible and equitable to boys and girls, ii) provide quality education for all, iii) free for all children, iv) relevant to the current needs, v) effective and vi) the level of literacy and numeracy of boys and girls. Thirty-five Bruneians participated in the survey (early childhood education) consist of 80.0% of female and 20.0% of male with various education levels, Certificate in ECCE of 2.9%, Diploma (14.3%), bachelor's degree (20.0%), master's degree (57.1%), and PhD. (5.7%). Experience wise, 11.4% of the respondents have less 5 years of experience, 22.9% of between 6 to 10 years experience, and 65.7% are of more than 10 years experience. The respondents are from various expertise, namely, ECCE (48.6%), ESD (2.9%), Inclusive Education (2.9%), primary education (8.6%), secondary education (11.4%), and others (25.7%).

The survey for primary and secondary education is participated by 100 respondents consisted of 71.0% of female and 29.0% male from various education levels, Certificate in ECCE (22.0%), Diploma (11.0%), High National Diploma (2.0%), Post-graduate Diploma (1.0%), Bachelor's Degree (34.0%), Master's Degree (47.0%), and Ph.D. (3.0%). The respondents that have less than 5 year of experience is of 14.0%, 6 to 10 years is 24.0%, and more than 10 years is 62.0%, from various expertise of ECCE (19.0%), ESD (2.0%), Inclusive Education (1.0%), primary education (15.0%), secondary education (29.0%), Teacher Policy and Training (1.0%), TVET (26.0%), and others (7.0%).

i)   Accessible and equitable to boys and girls.

The Ministry of Education Brunei is committed to provide equitable quality education, driven by the principles of the Malay Islamic Monarchy, to the development of future ready individuals with 21st century knowledge and skills. Its priority is to grow students into healthy and responsible citizens who can make a positive contribution to the country. (Ministry of Education Brunei, 2018). Majority of the respondents (94.3%) agreed that early childhood education is equally accessible to boys and girls, and the number of preschools is sufficient at 76.2% agree. Preschools are available at every district, and this is collectively at 82.5% agree. The respondents (66.7%) also agreed that there are initiatives

executed by the government to promote girls to participate in early childhood education. Intervention executed for children at risk for example immigrant, refugee, out-of-school, CLHIV and disabilities for early childhood education to ensure their participation in preschools is at cumulatively of 48.5% agree, while 34.3% stated as unsure.

Ninety eight percent of respondents agreed that primary and secondary education is accessible to boys and girls; respondents also agreed that primary and secondary school is available at every district (97.0%), and the schools are reachable (96.0%); and 66.0% of respondents agreed that the number of primary and secondary schools is sufficient. Intervention executed for children at risk for example immigrant, refugee, out-of-school, CLHIV and disabilities in primary and secondary schools is at 44.0% agree, while 41.0% of respondents are unsure. From the open-ended survey, one of the respondents stated that it is important have concern on children with vulnerable situation such like students with family problem, immigrant, and out-of-school children for them to be able to participate in education away from difficulties and the awareness of the existence of such children in education.

ii)   Quality education for all.

The quality for preschool in this section refers to the quality of care and the quality in preparing preschoolers for primary education. The quality of care consists of providing free meals and facilities that is sensitive to children needs, children with disabilities, gender, non-violent and inclusive. Quality in preparing preschoolers for primary education refers to the curriculum develop for preparation to primary education; curriculum is aligned with primary education and most preschoolers achieved a minimum requirement before entering primary education. The agreement on the preschool facilities is sensitive to children's need is 65.7% agree. Facilities sensitive to children with disabilities is 45.7% agree, while 57.14% agree on facilities sensitive to gender. All respondents agree that the environment of preschool is non-violent. Cumulatively, 82.9% agreed on the environment of preschool is inclusive, and 68.6% agree that preschool provides free meals for children. The respondents at 85.7% that curriculum developed will prepare preschoolers for primary education and it is aligned with primary education at collectively 90.0% strongly agree and agree. Majority of children achieved a minimum requirement before enrolling in primary education is agreed at 71.4%

For primary and secondary education, 84.0% agreed that the primary and secondary education curriculum is suitable at all level and age and 54.0% agreed that talent of children is embraced by specific programs such as sport, arts and gifted. In the aspect of facilities, the respondents agree that the facilities are adequate (33.0%), facilities is sensitive to children (66.0%), sensitive to children with disabilities (55.0%), sensitive to gender (64.0%), facilities is safe (81.0%), education environment is non-violent (93.0%), and education environment is inclusive (74.0%). Fifty percent of the respondents agreed that children in primary and secondary education is provided with free meals. Several respondents stated that student low motivation to learn and bad attitude towards learning should be taken into consideration. Parents and caregiver's involvement in their children education need to be aware and boosted to ensure the continuity of education at school and at home. In Brunei Darussalam, socio-economically privileged students outperformed under privileged students by 103 points in PISA 2018, and 50% of students reported being bullied at least a few times a month, compared to 23% on average across OECD countries (OECD, 2019).

iii)   Free for all children

Most respondents (82.9%) agreed that the early childhood in Brunei Darussalam is free and 74.3% agreed that all children can afford early childhood education. Cumulatively, 51.4% agreed that there is initiative executed to promote early childhood education by providing scholarship and funding, while 31.4% of the respondents are unsure about this. In the primary and secondary education, the respondents agreed that 94.0% is free for all children and 75.0% agreed that children can afford primary and secondary education. 74.0% agreed that initiatives executed by the government to keep children in schools by scholarships.

iv)   Relevant to the current needs

Relevant refers to curriculum and facilities that provide preschoolers with relevant skills and emphasis on character building. Children at preschools are equipped with relevant skills is agreed at 74.3%. Collectively, 68.8% agreed that preschool facilities is relevant to current early childhood education needs and 77.1% agreed that at pre-school level emphasis is given on character building. In primary and secondary education, the percentage of agree on the curriculum is relevant in the 21st century is at 75.0%, curriculum aligned with I.R 4.0 is at 43.0%, while 46.0% is unsure, children is equipped with relevant skills is at 69.0% agree, emphasis on STEM is at 69.0%, emphasis on ICT programs is at 60.0% and emphasis on character building is at 59.0%. For the open-ended survey, teachers stated that it is important to give emphasis on STEM education and I.R 4.0 relevant skills to guarantee that children are capable to survive in their career life. Some respondent stated that heavy emphasis on academic or examination orientation should be balanced with personal development and character building. Realizing that, through strategic plan 2018-2022 The Ministry of Education Brunei as a professional and dynamic organization, will provide a comprehensive education framework through a substantive curriculum and specific educational programmes with the attention given to students' learning (Ministry of Education Brunei, 2018).

v)   Effective compulsory education.

Effective refers to sufficient number of teachers, monitoring authorities and agencies and government expenditure on early childhood education, facilities that promote effective learning and improved from time to time. Cumulatively, 34.2% agree that the number of preschooler teachers is sufficient. Monitoring agencies or authorities play an effective role in ensuring the quality of care and curriculum is at 80.0% agree collectively. Facilities of preschool are effective for learning agreed at 82.8% and facilities of preschool is improved from time to time is agreed at 75.7%. Based on the survey, the teachers feel that there are insufficient officers to handle preschools, and the curriculum is too academic and should emphasis more on character building. The concerns are due to the primary curriculum is too advanced, and the preschool teachers worried that the children would not be prepared for primary education. Some respondents stated that the need to recruit more pre-school teachers because the ratio of pupils per teachers in some locality is high and to improve the qualification of the educator by certification. Even though they agree that the monitoring agencies are effective, somehow, they stated that the officer in early childhood education is under staff and more funding to improve preschools facilities. The Preschool Quality Indicators Checklist, developed as a guide for teachers to use as a self-assessment tool, targeted on four main areas that are: i) teaching and child aspects, (ii) teaching and learning aspects, (iii) infrastructure aspects and (iv) daily routine aspects (Mohamad et. al, 2018). Awareness to parents and caregivers about the importance of early

childhood education and their involvement in their children education and the preschool is not a daycare need to be considered.

In primary and secondary education, the respondent agrees at 27.0% that the number of teachers is sufficient in primary and secondary schools. 75.0% agreed that monitoring agencies or authorities play an effective role in ensuring the quality of primary and secondary education. 64.0% agree that government spend ample expenditure on primary and secondary education. The respondents agreed that 61.0% of children performed well in academic, and 45.0% of children performed well in non-academic. Facilities of primary and secondary education are promoting effective learning agreed by 79.0%, and facilities are upgraded from time to time agreed by 57.0%, and facilities are agreed by 50.0%. Some respondents from the open-ended survey stated that it is essential to reduce the ratio of pupils per teacher because in some locality it is still an issue. Yet, based on the survey that some teachers felt that they are still burdened with the non-academic task which limits their capability to give effective teaching and concerns regarding the lack of ICT tools in school and parents involvement should be considered. Some respondent suggests that teachers should be given a better incentive for motivation. Facilities should be upgraded especially in ICT to ensure children provided with the 21st-century learning environment. However, from the PISA 2018 reported that some 85% of students in Brunei Darussalam (OECD average: 74%) agreed or strongly agreed that their teacher shows enjoyment in teaching and Some 93% of students in Brunei Darussalam reported sometimes or always feeling happy (OECD, 2019)

vi)   Level of literacy and numeracy.

Literacy and numeracy refer to the agreement of respondent on the most student can read and count in primary and secondary schools. The respondent agreed that 72.0% of the boys could read, while 77.0% of girls can read. Initiatives executed to improve literacy in boys and girls in primary and secondary schools is agreed at 88.0%, and 63.0% agree that programs related to the improvement of literacy in primary/secondary education are effective. 74.0% of boys can count, and 75.0% of girls can count agreed by the respondent. Initiatives executed to improve numeracy in boys and girls in primary and secondary schools is agreed at 84.0%, and 59.0% agree that programs related to the improvement of numeracy in primary and secondary education are effective. Some of the respondents stated that the Year 1 curriculum is to advance, and some children shocked when they enter primary school. The language thought in primary school is bilingual, and children had a hard time to adapt to this environment. From the open-ended survey, some respondent stated that it is important to focus on literacy and numeracy due to some students have difficulties when they progress to secondary education. It is crucial to have some intervention at the primary level before the children progress to the secondary level. The transition from Bahasa Melayu mediation to bilingual along with English raised concern by some teachers because students have difficulties in adapting to such policy. Young children are supposed to have a high degree of English literacy by the time they reach primary school, since it is the medium of instruction for most subjects. As a result, a significant number of children spend their preschool year studying two new languages, English and Standard Malay, as well as the principles and skills outlined in the National Preschool Curriculum (Mohamad et al., 2018).

4.2   INDONESIA

The Republic of Indonesia with the area of 1.905 million km^2 consist of 17,508 islands with the population of 268 million people with life expectancy at birth total years is 71.51 and population growth of 1.10% in 2018 (Table 3). Jakarta, Surabaya, Bandung, Medan, and Semarang are the main cities; whilst Malaysia, Papua New Guinea and Timor-Leste are its neighbouring countries. There are over 300 ethnic groups in Indonesia, of which Javanese is the largest, followed by Sundanese and Malay. Currently, 717 living languages are spoken in Indonesia, and Bahasa Indonesia is the official language. Rupiah (Rp) is the national currency, and the major industrial sectors include petroleum and natural gas, textiles and apparel, mining, footwear, plywood, rubber, chemical fertilizers, and tourism. Indonesia proclaimed independence in 1945, and presently, Indonesia is a member of Association of South-East Asian Nations (ASEAN), Asia-Pacific Economic Cooperation (APEC), Organization of Islamic Cooperation and United Nations (UN).

Table 3: Indonesia socio-economic indicators

Total population (in thousands)	267,671
Annual population growth (%)	1.10
Population 15-24 years (in thousands)	45,403
Population aged 14 years and younger (in thousands)	71,070
Rural population (% of the total population)	45
Total fertility rate (birth per woman)	2.30
Infant mortality rate (per 1,000 infants)	21
Life expectancy at birth (years)	72
Prevalence of HIV (% of population aged (15-49 years)	0.40
Poverty headcount ratio at $1.90 a day (PPP) (% of the population)	4.60
GDP per capita –PPP$	12,302
Annual GDP growth (%)	5.00
Total debt service (% of GNI)	5.60
GDP in billions – PPP$	3,329

Source: (http://uis.unesco.org/en/country/id)

4.2.1   Overview of Indonesia Education

By the end of the 1980s, Indonesia had attained free universal primary education and had started to target the extension of the basic education programme from 6 to 9 years. In 1994, the government established a policy to support nine years of free compulsory education for all students (Figure 11) (Faisal & Martin, 2019). The basic education system of Indonesia consists of four levels, which starts with *Pendidikan Usia Anak Usia Dini* (PAUD) playschool at the age of 3 to 5 years, and early childhood education *Taman Kanak-Kanak* at the age of 5 to 6 years, *Sekolah Dasar* or the primary education starts from grade 1 to 6, *Sekolah Menengah Pertama* or junior secondary education starts from grade 7 to 9. *Sekolah Menengah Atas* or senior secondary education starts at grade 10 to 12. State educational institutions are conducted by the Ministry of Education and Culture (Kemdikbud) and Ministry of Religious Affairs (Kemenag). The number of primary students increased from 14.9 million in 1970 to 29.35 million in 2016, and the number of tertiary students increased from 248,000 to about

9 million during the same period. Formal fees have been banned for primary school since 1977 and junior high schools since 1994 (Zuilkowski, Samanhud & Indriana, 2017).

Pre-primary (5-6 years)
School-age population: 9,658,094

Education System

Primary (7-12 years)
School-age population: 27,739,788

Secondary (13-18 years)
School-age population: 28,008,819

Compulsory education lasts 9 years from age 7 to age 15. For primary to post-secondary education the academic year begins in July and ends in June

Tertiary (19-23 years)
School-age population: 22,134,366
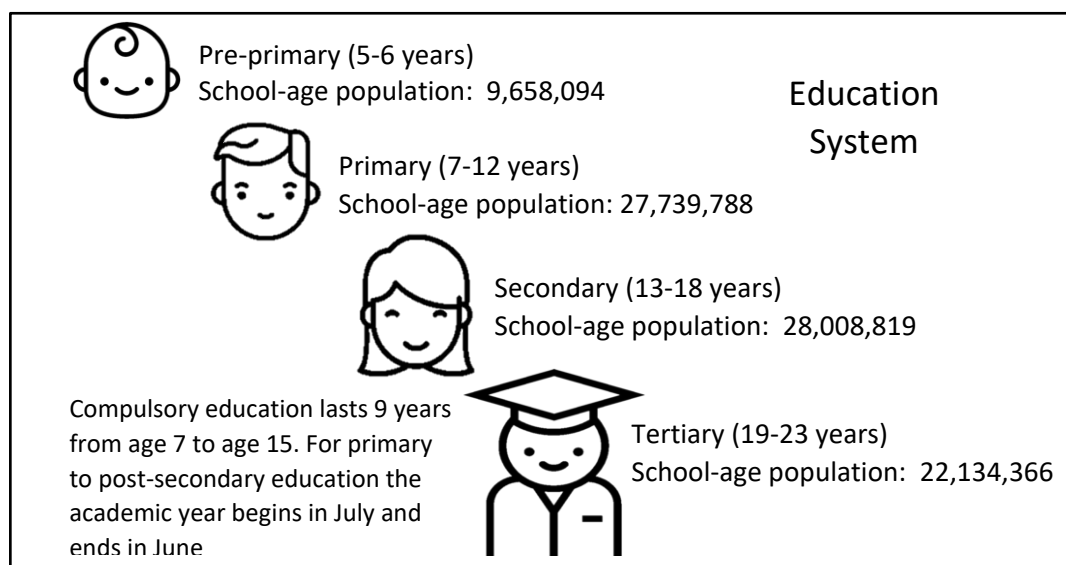
Figure 51: Indonesia education system
Source: (http://uis.unesco.org/en/country/id)

The population of Indonesia with a productive age will hit a height of 70% by 2020-2035. Human resources will confront with huge challenges in terms of how to transform the population of productive age, equipped with knowledge and skills via education (Permendikbud Indonesia, 2018). Based on Table 4, female children have higher school life expectancy than male children by 0.12, and percentage of repeaters in primary education among female children is lower than male children by 0.66%. Female children show a higher survival rate till the last grade of primary education compared to male children by 1.91%. Still, less female children went into secondary education than male children based on the transition rate 8.03%. The Republic of Indonesia has spent a high percentage of the total government expenditure of 20.5% in 2015 indicates that the nation is enthusiastic in transforming the education system to elevate the quality of education since the new policy on education *UU 20 Tahun Sistem Pendidikan Nasional* established in 2003 (Table 5).

Table 4: Indonesia progress and completion in education

	MALE	FEMALE	TOTAL	Recent data (year)
School life expectancy ISCED 1-8 years	13.55	13.67	13.61	2018
Percentage of repeaters in primary (%)	1.65	0.99	1.33	2018
Survival to the last grade of primary (%)	97.32	99.23	98.23	2017
Gross intake ratio into the last grade of primary (%)	102.99	101.64	102.33	2018
Primary to secondary transition rate (%)	95.39	87.36	91.5	2016

(Source: http://uis.unesco.org/en/country/id)

Table 5: Indonesia expenditure for education

Government expenditure on education		
as % of GDP	3.58	2015
as % of total government expenditure	20.5	2015
Government expenditure per student (inPPP$)		
Primary education	1,468.32	2015
Secondary education	1,164.07	2015
Tertiary education	2,297.77	2015

Source: (http://uis.unesco.org/en/country/id)

The National Education Standards Agency or *Badan Standar Nasional Pendidikan* (BSNP) is an independent and professional institution that has a mission to develop, monitor and evaluate the implementation of national education standards based on the Eight National Education Standards (Figure 12). The five main roles of BSNP and they are: i) developing National Education Standards; ii) organizing national exams; iii) provide recommendations to the government and local governments in education quality assurance and control; iv) formulate graduation criteria at primary and secondary education units; and v) assess the appropriateness of the content, language, presentation, and graphics of textbooks. It shows that Indonesia has a specific agency in ensuring that their education policy and plan is on the right track. The Government of Indonesia is highly centralized, granting the Ministry of Education and Culture full authority to develop the framework and identify all components to be used in the curriculum. Part of this strategy included the implementation of the National Competency Curriculum or *Kurikulum Berbasis Kompetensi* (KBK) designed to improve students' ability to respond to globalization and rapid advances in science and technology. The KBK, introduced nationally in 2004, outlined critical learning results for students and empowered teachers to adapt the teaching of this content and to allow local education authorities more autonomy to match the curriculum with local contexts (Faisal & Martin, 2019).
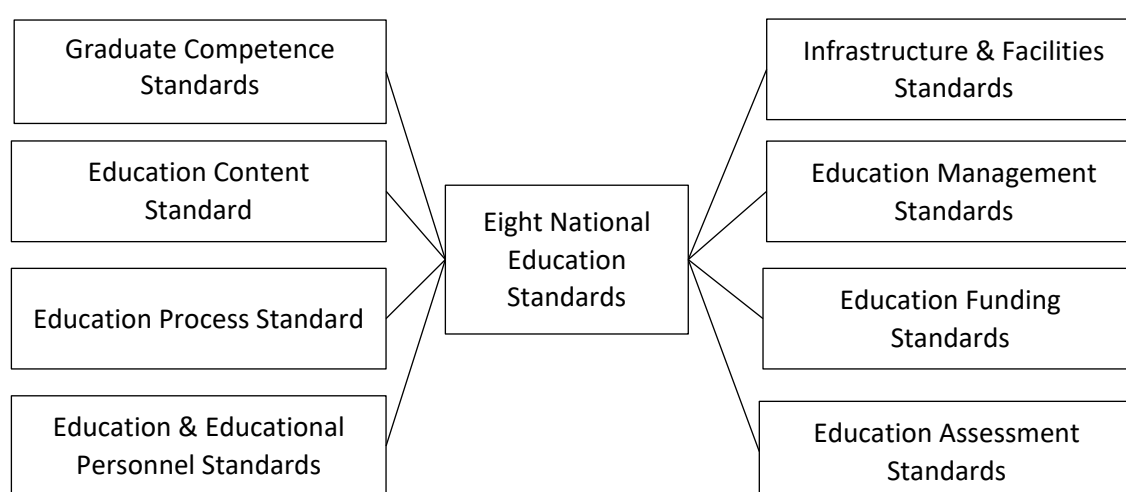
Figure 12: Indonesia Eight National Education Standards
Source: (https://bsnp-indonesia.org)

Indonesia has a systematic education system which is accessible by all children, and the government has spent ample budget in realizing the world-class education system by 2025. Indonesia immense obstacle is no longer improving access but enhancing quality. Withal, multiple evaluations of the country's educational outcomes indicate Indonesia has a long way to go before it achieves that goal (Rosser, 2018). The effort to uplift the quality of education and better learning outcomes such *Sekolah Bertaraf Internasional* in terms of the use of ICT, curriculum equivalent to the international standard and the practice of English should be taken into consideration. Indonesia will encounter external challenges due to the globalization of the various environmental problems, the advancement of information technology, the growth of the creative industry and culture, and the development of education at the international level (Permendikbud Indonesia, 2018). Most recently, the curriculum is being updated in 2013 to enhance the standard of the national education system. Explicitly, the revisions aimed to resolve three specific concerns in preparing Indonesia's large youth population for potential labour markets, growing student understanding and appreciation of social-cultural and environmental problems in Indonesia, and enhancing the performance of Indonesian students in international comparative assessments. (Faisal & Martin, 1919). The participation of Indonesia in the international assessment such as PISA indicates that the nation is deliberate to ensure how well the performance of the education policy and plan and as a benchmarking to determine Indonesia is at par as other nations.

4.2.2   Early Childhood Education

Indonesia is one of the countries experiencing growth in early childhood participation rates. However, Indonesia's early childhood education history can be traced back to the mid-1940s and has only recently become a concern on the country's national policy agenda. Indonesia's early childhood education system is categorized into the formal and non-formal provision of childcare facilities for children aged three to six years, preschools identified as formal and daycare centres identified as non-formal (Hakim & Dalli 2016). The government established the first office dedicated to early childhood education policy in 2001. Early childhood education is under direct supervision and monitoring of Directorate of Early Age Education Development. Another milestone development as early childhood education and care inclusion in 2003 in the main policy document The National Education System (Indonesian Law/20 2003) and early childhood programmes have since greatly improved. Early childhood in Indonesia has its purpose to development children potential holistically including the aspects of cognitive, language, social, moral, emotion, psychomotor and character. There are significant wealth inequalities between the different islands, contributing to gaps in development outcomes, including young children. The fact that Indonesia has the world's fourth-largest population with many diverse ethnic and linguistic groups also leads to inequalities in the country's development outcomes (Denboba, Hasan & Wodon, 2015).

Based on Figure 13, the enrolment of female children (59.13%) is lower compared to male children (65.41%) by (-6.28%) in early childhood education. The enrolment of female children in Indonesia is higher in comparison to the world average at 48.4% in 2018. The pupils and teacher ratio in 2017 and 2018 shows is static at 12.68 lower than the world average at 17.45 (Figure 14). The government is currently prioritizing early education and has achieved a sharp rise in gross enrolment ratio. Withal, major gender differences exist between urban and rural areas. For example, elementary gross enrolment ratio in remote islands groups like Papua, Kalimantan, and Maluku remained is low.
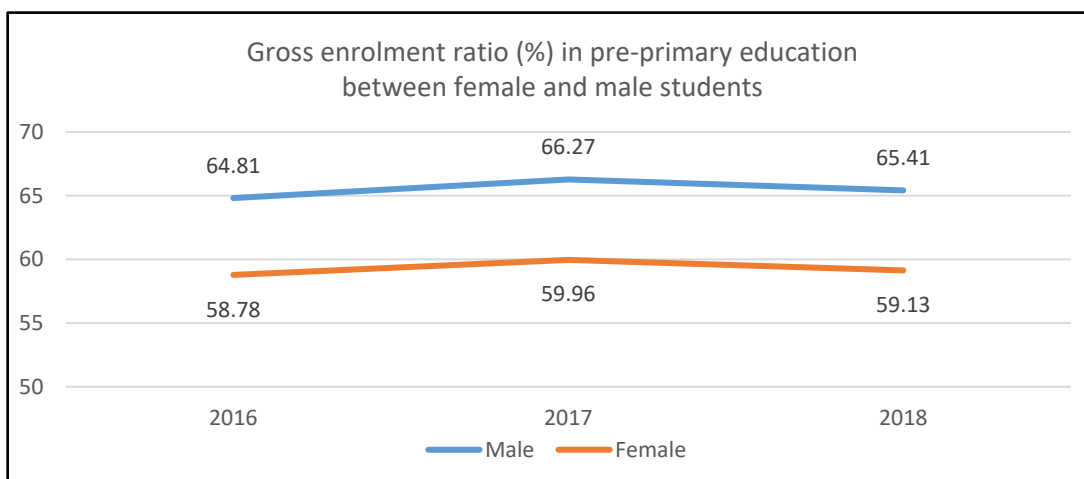
Figure 63: Indonesia gross enrolment ratio (%) in pre-primary education between male and female students
Source: (http://uis.unesco.org/en/country/id)
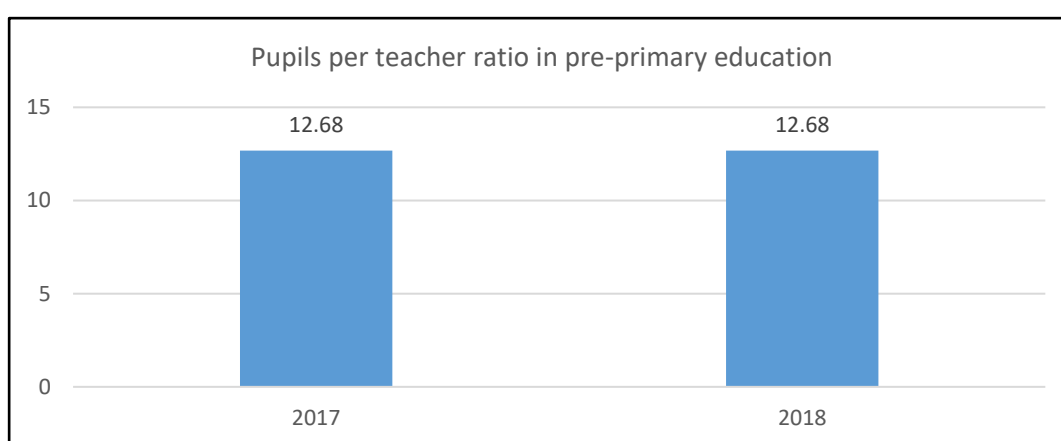
Figure 74: Indonesia pupils per teacher ratio in pre-primary education
Source: (http://uis.unesco.org/en/country/id)

4.2.3   Primary Education

Primary education (*Pendidikan Dasar*) lasts for six years (grades 1 to 6). In 2013, Indonesia's government revised the national school curriculum to emphasis "character education" and innovative thinking. The curriculum includes topics such as religious education, national philosophy and civics, Indonesian, mathematics, technology, social science, arts, and physical education. Indonesia has made a variety of reforms and enhancements to its education policies. The curriculum is classified as a dynamic, contextual, and relative policy outcome. The curriculum is dynamic in terms of the capability to adapt with the time, appropriate to the current context and sustainable, which evolve through time, ensuring the children will be able to survive in the future. The new curriculum stresses the new pedagogical component of the use of a scientific method. The thematic learning method using the Kemendikbud Scientific Approach is designed to provide students with an understanding using

different materials and scientific approach, and the information can come from anywhere at any time, not depending on the online information from the teacher. In the policy of the National Education System 2003, primary education is an ongoing effort and plan to create a learning environment and proses to ensure active involvement of children to develop children's potential that has a resilient spiritual, independent, sound character and behaviour and skillful which is a need in the society.

Based on Figure 15, the percentage of enrolment ratio between female and male children is increasing in number for primary education. Male children show a higher percentage of enrolment ratio of 108.13% in comparison with female children of 104.59%, with a difference of 3.54%. The pupils per teacher ratio shows an increase in number for the past three years and recorded at 17.03. Yet, the pupils per teacher ratio of primary education in Indonesia is lower than the world average at 23.44 (Figure 16). At the end of primary education, the children will sit for *Ujian Nasional* a standardized test to evaluate the primary education system in comparison to the quality of education between districts.

Academicians and teachers who are in favour of *Ujian Nasional* agree that it could be used for assessing the quality of education, to identify whether the student has achieved the national standards (UNESCO 2017). There has been a debate of *Ujian Nasional* on the validity and the administration of the test and how accurate the test to determine the achievement of the student. Subsequently, the test is then changed to *Ujian Akhir Berstandar Nasional* (UASBN) and conducted by the provincial and district office with the purpose to evaluate the quality of national education. The Government has indicated that the USBN and the UN are important to measure student achievement of national education standards and that the results would be useful for measuring school performance and for identifying schools in need of assistance (Fatin & Martin, 2019). The high stakes standardized test is finally abolished starting from 2021 by the Minister of Education and Culture and was cancelled in 2020 due to COVID-19. However, more needs to come with an innovative mechanism to assess and monitor the effectiveness of the policy and plan also to be accountable for the students' achievement.
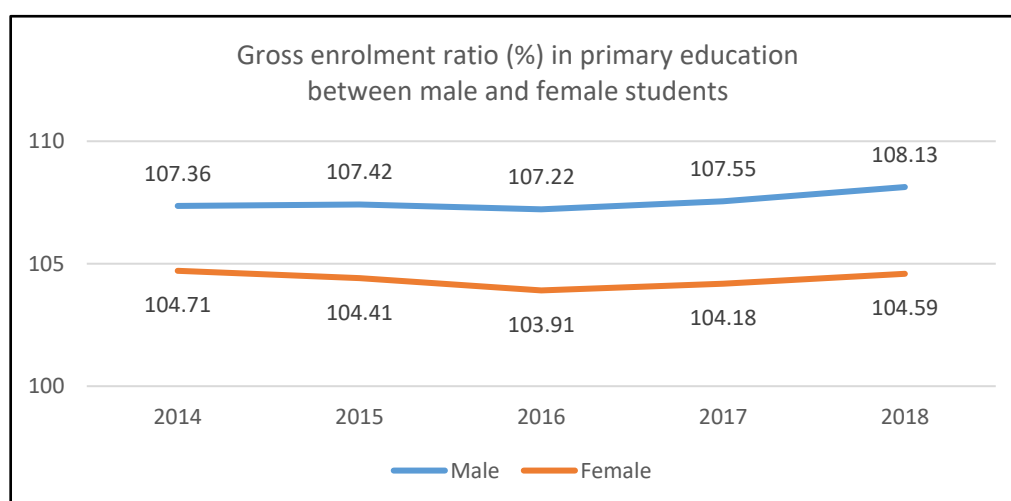
Figure 15: Indonesia gross enrolment ratio (%) in primary education between male and female students
(Source: http://uis.unesco.org/en/country/id)
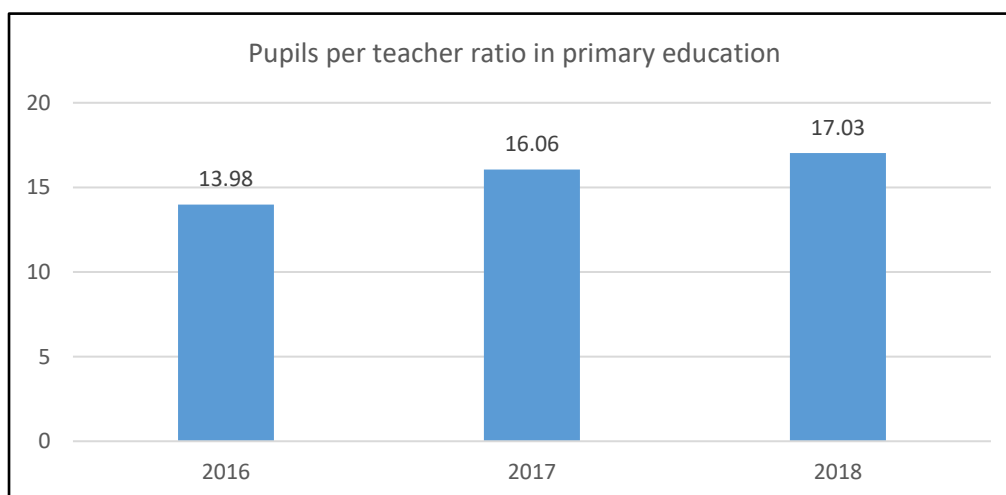
Figure 86: Indonesia pupils per teacher ratio in primary education
(Source: http://uis.unesco.org/en/country/id)

4.2.4 Secondary Education

Children will enter junior secondary education for three years (grades 7 to 9) after finishing primary education, and at the end of the level children will be awarded a certificate of completion. For the schools under the supervision of the Ministry of Religious Affairs, children will receive an equivalent certification of completion of *Madrasah Tsanawiyah*. The Indonesian school system requires students at the end of each secondary school level (Grade 9 and Grade 12) to take the National Standardized School Exam *Ujian Sekolah Berstandar Nasional* (USBN). This exam will decide whether students will continue their education at the next level (Fatin & Martin, 2019). Withal, the standardized test has been deprioritized since 2015, the promotion and graduation are based on a continual assessment even the children still sit for it.

After the completion of junior secondary school, the children can choose to enter either general academic senior secondary school or *Sekolah Menengah Atas* (SMA) or vocational upper-secondary school *Sekolah Menengah Kejuruan* (SMK). The same goes to the Islamic schools whether the children can choose to enter general academic program *Madrasah Aliyah* (MA) or vocational program *Madrasah Aliyah Kejuruan* (MAK). Senior secondary education is currently neither compulsory nor free. It lasts for three years (grades 10 to 12) and is offered in various specialization pathways on the general academic course. In the final two years of the program, students can be specialized in languages (Indonesian, English, and other foreign languages), science (biology, chemistry, and physics), or social sciences (sociology, economy, and geography), following a common curriculum. Children who enter religious school will be specialized in a religious subject such as Al-Quran and Hadith, Arabic, Islamic history, and others.

Based on Figure 17, the percentage of gross enrolment show an increase in number for the past three years. Female children show a higher percentage (90.04%) compared to male children (87.84%) by (+2.3%). The pupils per teacher ratio show a decrease in number from (15.33) 2017 to (15.21) 2018 by (-0.12) (Figure 18). Yet, the pupils per teacher ratio in Indonesia is still lower than the world average of 17.0. Indonesian school principals reported that, 65% of teachers in advantaged schools and 44% of teachers in disadvantaged schools are "fully certified." The number of teachers with at least a master's degree in advantageous schools is higher than in disadvantaged schools (OECD,

2019). Since 2001, the province is given autonomy where the senior secondary school is supervised and monitored by the states and central government act as a regulator in standardizing national education. Social assistance initiatives will create human resources by facilitating the consumption and providing proper nutrition and education for all people. This would improve interest, usage, and access to education, wellness, nutrition, and other resources. School operational assistance funds program or *Bantuan Operasional Sekolah* (BOS) established in 2005 are among primary policies to boost the quality of education stipulated in the Government Regulation Number 19 Year 2005 from the central government and schools also receive funds from their provincial or district government (UNESCO 2017). The main goal of BOS is to cover school tuition in the public schools, lighten operational expenses in the private schools, and to provide free education for poor students, both in public and private schools as the embodiment of the commitment of the government of Indonesia to establish nine free years of compulsory education (Fatah, 2016).
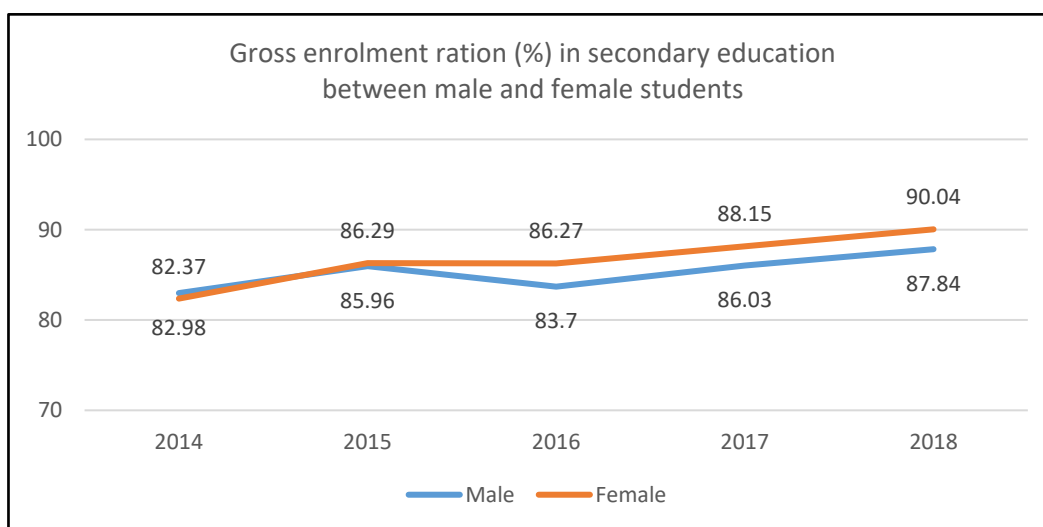
Figure 97: Indonesia gross enrolment ration (%) in secondary education between male and female students
(Source: http://uis.unesco.org/en/country/id)
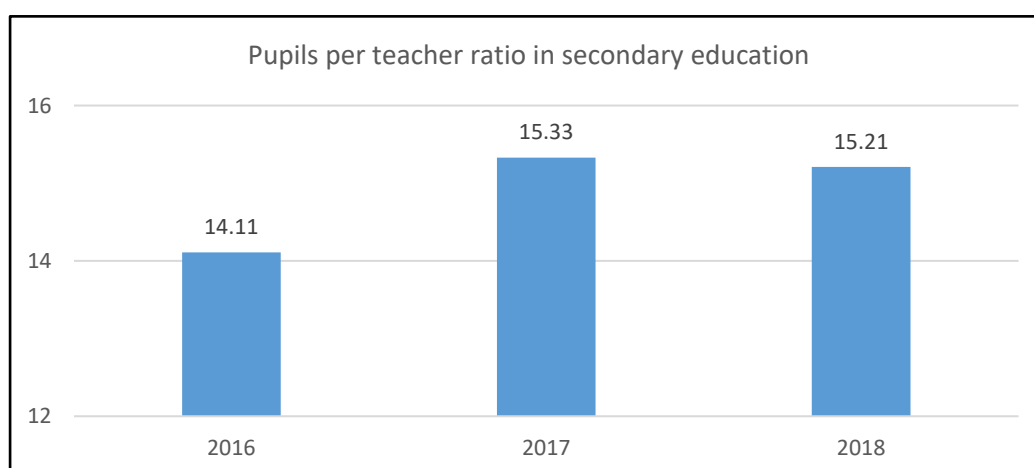
Figure 108: Indonesia pupils per teacher ratio in secondary education
(Source: http://uis.unesco.org/en/country/id)

Not only funds for the school to operate effectively but the government have also initiated funding for children but also parents and caregivers. Children at school age from 25% of poorest households are given a cash allocation through *Program Indonesia Pintar* (PIP) to lessen the burden for unfortunate children to get access to education. Due to the expensive cost, especially in secondary education equivalent to 18% of the poor household's overall spending per child, PIP has helped to lower the cost of education. Indonesia also initiated a program that is a conditional cash allocation for poor households called *Program Keluarga Harapan* (PKH) aimed to facilitate short-term poverty and enhance human capital through consumption support combined with investment in education, health and nutrition. Families are also invited to engage in Family Development Sessions that increase awareness of nutrition, early childhood education, financial literacy, and other related topics (The World Bank 2019). Indonesia is currently improving transparency and accountability by making educational data can be accessed openly online. Initiatives such as *Sekolah Kita*, the public can easily access on educational data and over 200,000 report cards through (http://sekolah.data. kemdikbud.go.id/) and government spending on education through *Neraca Pendidikan Daerah* (http://npd.data.kemdikbud.go.id/). It is hoped that the number of out-of-school children can be decreased and to ensure most children to have the education to survive in their career life.

There are groups of teachers based on subjects or classes named *Kelompok Kerja Guru* (teachers working group), while at junior high schools there are groups of teachers based on subjects refer to as *Musyawarah Guru Mata Pelajaran* (community of subject teachers). The goal of these forums is to improve the professionalism of teachers through a system-based approach and active teaching and learning activities, and to enhances the effectiveness of teaching subjects. The presence of the groups leads to psychological preparedness and sociological readiness as the groups promote the mutual support of teachers and the exchange of solutions to problems relevant to the production of teaching methods and materials (Kisworo, 2016).

4.2.5   Literacy and Numeracy

Bahasa Indonesia is the official language of instruction in the school system. However, the different spoken languages of Indonesia can also be used at the local level during the first years of elementary education. In higher education, Indonesian is still a medium of instruction, but English is becoming more popular in some programmes, and textbooks are typically written in English. There have been initiatives to make English compulsory at Indonesian universities, but these plans have not been enforced as of today. Literacy rate in Indonesia among youth at aged 15-24 years show a significant increase for the past ten years. In 2018, the percentage of literacy rate among youth at aged 15-24 years was 99.7% higher than the world average at 91.5%. The number of literate Indonesian youth aged 15-24 years female and male is similar at 99.7% in 2018, and It shows that most of Indonesia has at least a basic education. *Gerakan Literasi Nasional* (GLN) was founded in 2016 as one of the possible solutions to increase the level of literacy of Indonesian students. The extensive reading programmes in schools and universities are in line with GLN's vision and mission, other than that the Extensive Reading programmes and activities play an important role in the efforts of schools and communities to develop more well-established, well-planned actions to increase students' level of literacy (Anandari & Iswandari, 2019).

The involvement of Indonesia in The Trends in International Mathematics and Science Study (TIMSS) and the Programs for International Student Assessment (PISA) since 1999 also indicates that the achievements of Indonesian children are not promising (Figure 19). This is attributable to the test content in question in TIMSS and PISA did not exist in the Indonesian curriculum (Permendikbud Indonesia, 2018). However, the performance of Indonesia in the recent PISA 2018 shows an increase

in the mean score of reading, mathematics and science compared to recent years. Students in Indonesia scored less than the OECD average in reading, mathematics, and science. In all PISA 2018 countries and economies, girls have outperformed boys in reading with an overall score of 30 points across OECD countries. In Indonesia, the gender reading gap (25 score points) was not substantially different from the average reading gap. The difference was smaller than that observed in 2009 (37 score points) and the output of both boys and girls remained constant over the period (OECD, 2019).
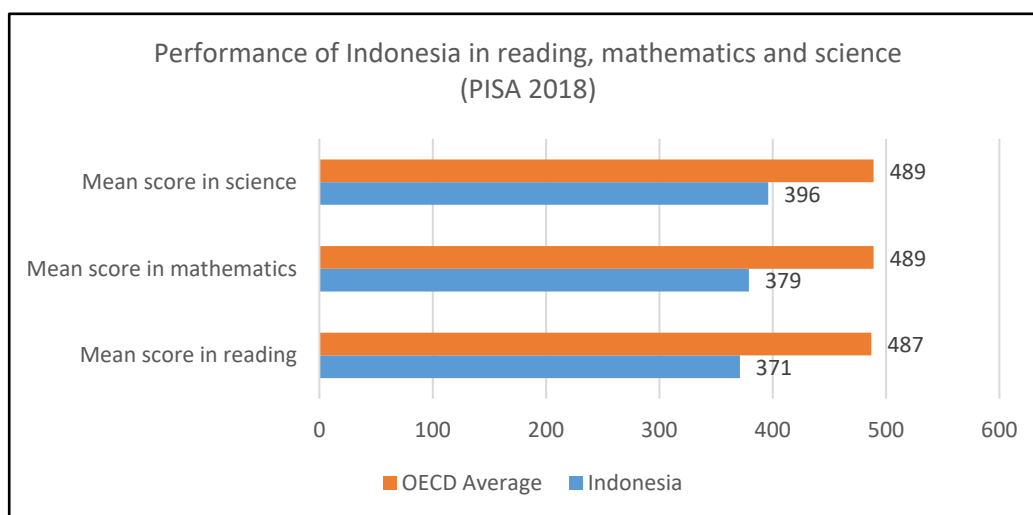
Figure 1911: Performance of Indonesia in reading, mathematics, and science (PISA 2018)
(Source: OECD 2019)

Compared to the OECD average, a smaller proportion of students in Indonesia scored at the maximum level of proficiency at Level 5 or 6 in at minimum one subject; at the same time, a smaller number of students attained a minimum level of proficiency at Level 2 or higher in at least one subject. 30% of Indonesian students had at least Level 2 reading proficiency, and the OECD average is 77%. Some 28 % of Indonesian students have attained Level 2 or higher in mathematics, and the OECD average is 76%. Some 40% of students in Indonesia have attained Level 2 or higher in science and OECD average is 78% (OECD 2019). However, these findings need to be seen in the light of the vast improvement that Indonesia has made in increasing enrolment in PISA. In 2001, only 46% of 15 years old in Indonesia were sampled by PISA in 2018; 85% of 15 years old were sampled. If the education system had not changed, the addition of more students would be projected to reduce the average and the distribution of performance. In that perspective, Indonesia has been able to boost the quality of its education system by upholding education standards over its participation in PISA (OECD 2019). The outcome of PISA is one of the reasons for Indonesia to pay much attention to student literacy, because reading is one of the ways to assess someone's progress. (Anandari & Iswandari, 2019).

4.2.6   Indonesia Response to COVID-19 Pandemic

In Indonesia, more than 530,000 schools were closed amid the coronavirus pandemic (COVID-19), affecting 68 million students from pre-primary to tertiary level and making the need for appropriate educational technology remarkably urgent. MoEC has taken measures to ensure continuity of learning without neglecting the health and safety of the students also giving mental and emotional support during the pandemic as below:

- **Precautionary Policy**, which starts on 9 March 2020, all schools and universities are advised to collaborate with local health authorities to be informed about and deal with COVID-19. We know that Indonesia is a big country and that the transfer of knowledge is important. Yet, it is not a simple task because there are more than 500 municipalities and thousands of islands and the effect of the pandemic differs in each locality. Pandemic awareness at this point focuses on a healthy lifestyle for the preservation of cleanliness and a diet that is essential in the battle against infection.
- **The Mitigation Policy**, which began on 24 March 2020, emphasized on how to cope with the emergency. The most critical focus is to reduce the tension between the teachers to accomplish the curriculum. Teachers are also responsible for supporting their students and parents understand COVID-9 and provide knowledge on a healthy lifestyle during the outbreak. Lessons relied not only on reading but also on giving input to students to enhance their learning. Mitigation Policy is tighter than the Precautionary Policy, which forbids any mass meeting.
- **Major national examinations are cancelled**. School examinations and admissions of new students requiring mass gatherings are prohibited.
- **Delivery of education takes place at home,** focusing on guidance to students and teachers are encouraged to create lessons that are essential and meaningful to students.
- **Elevate digital and non-digital platform** to facilitate learning such as internet portal launched by MoEC, (http:/bersamahadapikorona.kemdikbud.go.id) and a website (https:/guruberbagi. kemdikbud.go.id) provide teachers and students with freely accessible content.
- **Partnerships with communication providers** to offer free data for online learning applications.
- **Government Assistance Fund** to purchase phone credits and internet data needed for distance or online learning. Teachers and students in the K-12 community able to profit from these free data.

Not all teachers, students, parents, and caregivers have access to technology and flexibility in handling the pandemic environment need to be aligned with the advantage of each locality. Many rural students lack connectivity, and many low-income students do not have access to the gadgets needed for online learning purposes. Low technology such as radio and television offer a better option because most people have it the remote area. On 13 April, MoEC launched an educational programme called *Belajar Dari Rumah* (Study from Home) in ensuring the continuity of learning, lessen the learning loss and effort in overcoming the gap in equal access to education. However here are some challenges in the implementation of online and remote learning has its limitations such like; i) difficult access to funding, ii) cost of the technology, iii) low internet speed, iv) poor digital infrastructure, v) lack of digital literacy and vi) connectivity in the remote region.

4.2.7   Findings

This section discusses on how far the education of The Republic of Indonesia has accomplished to align their policy and plan with the SDG-4 2030 goals. There are six indicators that the survey tried to identify whether the early childhood education, primary education and secondary education is i) accessible and equitable to boys and girls, ii) provide quality education for all, iii) free for all children, iv) relevant to the current needs, v) effective and vi) the level of literacy and numeracy of boys and girls. The survey on pre-primary education is participated by seven Indonesians, 57.1% are female and 42.9% are male. All the respondent has bachelor's degree from various expertise of ESD 42.9%, primary education 14.3%, teacher policy and training 14.3% and TVET 28.6%. 14% has the experience less than 5 years, 14.3% 6 to 10 years of experience and more than 10 years of experience 57.1%. Due

to the number of respondents that is inadequate for primary and secondary education survey, hence this is not discussed in the findings.

i)   Accessible and equitable to boys and girls.

All respondents agree that the preschool provided equal access to boys and girls, the number of preschools is adequate, and initiatives executed to promote girls to participate in early childhood education. 85.7% of the respondent agree that the preschool is available at all districts. Intervention executed for children at risk, for example, immigrant, refuge, out-of-school, CLHIV disabilities for early childhood education is agreed at 71.4%. Initiatives executed to give awareness to parents about the importance of early childhood education is agree at 71.4%. From the open-ended survey, the respondents stated that the government should give more attention to early childhood education because in our country the community and parents are not yet fully aware of the important role of early childhood education. Parents treat preschool as a daycare, not an educational institution. Parents and schools must collaborate in shaping children's character from an early age.

For Indonesia to achieve the Sustainable Development Goals, including ensuring that all girls and boys complete free, equitable and quality primary and secondary education, there will be a need to reduce drop-out rates at all levels of education, especially in lower secondary schools. Students from privileged families and students living in neighbourhoods with a high proportion of students enrolled in school appear to attend school more often than students from poor families who live in communities where peers are frequently absent from school and in a certain locality, the distance is so far that students need a vehicle, or they will have to walk a few kilometres through rough terrain to get to school (Fatin & Martin, 2019). The Ministry of Education and Culture has established package school or *Sekolah Paket* that offers flexibility for working youth, and technically Package A is equivalent to primary education, Package B is equivalent to junior secondary school and Package C is equivalent to senior secondary education and youth at the end of each level will sit for *Ujian Kesetaraan* (Zuilkowski, Samanhud & Indriana, 2017). Socio-economic status was a strong indicator of achievement in mathematics and science in all participating PISA countries. It clarified 7% of the variation in mathematics performance in PISA 2018 in Indonesia (compared to 14% on average across OECD countries) and 7% of the variation in scientific performance (compared to the OECD average of 13% of the variation) (OECD, 2019).

ii)   Quality education for all.

Presently, data shows general equity in enrolment at the primary and junior secondary levels for all students, regardless of gender, ethnicity, religion, economic status, and geographical location (Fatin & Martin, 2019). 71.4% of respondents agree that the preschools provide free meals for the children. All respondents agree that the preschools are sensitive to children's needs, sensitive to gender and sensitive to children with disabilities. The respondents agreed that the curriculum is suitable for early childhood education at 71.4%. The early childhood curriculum developed in preparing children for primary education agreed at 85.7%, and 57.2% agree that the activities at early childhood are aligned with primary education. Majority of children achieved a minimum requirement before enrolling in primary education is agree at 85.7%. In Indonesia, 41% of students mentioned being bullied at least a few times a month, compared to 23 per cent on average across OECD countries, and some 91% of students in Indonesia reported feeling happy sometimes or always, and about 8 per cent of students reported feeling sad all the time (OECD, 2019). Students also pay regular school fees, examination fees

and tutoring expenses, in addition to the purchase of school uniforms, textbook and other learning materials, and transportation costs (Zuilkowski, Samanhud & Indriana, 2017).

iii)   Free for all children

All respondents agree that education early childhood education is free. 85.7% agree that the children can afford early childhood education and initiatives executed to promote early childhood education by scholarships or funding. Based on the open-ended survey, the respondent stated that more attention should be given to the welfare of teachers and tuition fee for the students to get access to education.

iv)   Relevant to current needs

Children at preschools are equipped with relevant skills and at pre-school level, and the emphasis is given on character building is agreed at 85.7%. From the open-ended survey, a respondent state that to be current in early childhood education and closing gap between the high and low-income community, private sectors should contribute to education by Corporate Social Responsibility and given tax waive by the government.

v)   Effective compulsory education

The number of preschool teachers is sufficient is agree at 42.9%. 57.1% agree that the monitoring agencies or authorities play an effective role in ensuring the quality of care in early childhood education and 71.4% agree that the monitoring agencies or authorities play an effective role in ensuring the quality of curriculum in early childhood education. Government spend ample expenditure on early childhood education is agree at 57.1%. The early childhood facilities promote effective learning is agreed at 71.4%, the facilities are relevant to current education needs is agreed at 85.7%. All respondents agree that preschool facilities are improved from time to time. From the open-ended survey, a respondent stated that only a few people pay attention to early childhood education, and few young people aspire to become early childhood teachers. Several respondents stated that some preschools are funded by the community and community with high income has more funding compared to the low-income community. This shows disparities in providing better facilities between high income and low-income community.

There is a lack of support from other stakeholders, such as school inspectors, parent associations, and a lack of involvement from school masters in some schools. The ICT leadership of school masters, particularly old school masters, has been found to be poor and m any of them are also technologically backward and technophobic (Kisworo, 2016). School principals in Indonesia experienced more staff shortages and more material shortages than the OECD average; and school principals in disadvantaged schools reported more staff shortages than school principals. In Indonesia, 64% of students enrolled in a disadvantaged school and 31% of students enrolled in an advantageous school attend a school whose principal indicated that the school's capacity to provide instruction is hampered, at least to some degree, by a shortage of teaching personnel. (OECD, 2019)

The findings revealed that obtaining the support of the school particularly in the planning of the library, was a significant first step towards the effective creation of a comprehensive reading programme. The next move was to set up a library, which allowed teachers to be able to help students decide the level and topics of the book. It was noticed that when students choose books to suit their

level and interests, their passion for reading increased. Book availability was also vital to support the long-term success of this robust reading programme (Anandari & Iswandari, 2019).

4.3 MALAYSIA

Malaysia, country of Southeast Asia, lying just north of the Equator, that is composed of two noncontiguous regions Peninsular Malaysia also called West Malaysia and East Malaysia which is on the island of Borneo. Malay or Bahasa Malaysia is the national and official language use in uniting diversity of peoples and spoken by most communities. It is the main medium of instruction in public primary and secondary schools. In 1962, school fees were abolished in all fully assisted primary schools. Free compulsory education was made available to all children regardless of their ethnic group. Primary production remains important, and the country is a major producer of rubber and palm oil, exports considerable quantities of petroleum and natural gas, and is one of the world's largest sources of commercial hardwoods. Malaysia is rich in mineral resources, and mining, including petroleum extraction, accounts for a significant portion of GDP (www.brittanica.com). The currency of Malaysia is Ringgit (RM), and presently Malaysia is a member of ASEAN, APEC, Commonwealth, OIC and the United Nations (UN). Summary of Malaysia socio-economic indicators is shown in Table 6.

Table 6: Malaysia socio-economic indicators

Total population (in thousands)	31,528
Annual population growth (%)	1.30
Population 15-24 years (in thousands)	5,626
Population aged 14 years and younger (in thousands)	7,565
Rural population (% of the total population)	23
Total fertility rate (birth per woman)	2
Infant mortality rate (per 1,000 infants)	7
Life expectancy at birth (years)	76
Prevalence of HIV (% of population aged (15-49 years)	0.40
Poverty headcount ratio at $1.90 a day (PPP) (% of population)	0
GDP per capita –PPP$	29,526
Annual GDP growth (%)	4.30
Total debt service (% of GNI)	N/A
GDP in billions – PPP$	943

Source: (http://uis.unesco.org/en/country/my)

4.3.1 Overview of Malaysia Education

Formal education in Malaysia starts with preschools at the age of six and operated by the government and the private sectors. However, younger children below six years old and below may attend playschool or daycare as non-formal early childhood education. The primary education starts at the age of seven lasts for six years (Year 1 to Year 6) (Figure 20). There are three types of primary schools which are National School (*Sekolah Kebangsaan* (SK)), National Type Chinese School (*Sekolah Jenis Kebangsaan Cina* (SJKC)) and National Type Tamil School (*Sekolah Jenis Kebangsaan Tamil* (SJKT)). All primary schools used the standard curriculum only the medium of language is different according to type. At the end of primary education, the children will sit for national examinations called *Ujian Pencapaian Sekolah Rendah*. The secondary schools have two levels, lower secondary and upper

secondary. The lower secondary starts at the age of 13 last for three years (Form 1 to Form 3) and at the of lower secondary the children will sit for the national examination and operated by the schools and regulated by the centre called Form 3 Assessment or *Pentaksiran Tingkatan 3*. In upper secondary starts at the age of 16 for two years and the children can choose to enter science streams, art streams or vocational colleges. Malaysia has established Malaysia Education Blueprint 2013-2035 (MEB 2013-2025) and will be implemented in three waves; i) Wave 1 (2013-2015); ii) Wave 2 (2016-2020) and Wave 3 (2021-2025) to ensure the continuity of policy and plan and the quality of education for all children.

Pre-primary (4-5 years)
School-age population: 1,023,681

Education System

Primary (6-11 years)
School-age population: 2,937,648

Secondary (12-17 years)
School-age population: 3,107,192

Compulsory education lasts 6 years from age 6 to age 11. For primary to post-secondary education the academic year begins in January and ends in October

Tertiary (18-22 years)
School-age population: 2,829,077

Figure 120: Malaysia education system
(Source: http://uis.unesco.org/en/country/my)

Table 7 indicates that the school life expectancy of female children is higher 14.04% compared to male children of 13.33%. In Malaysia, there are no repeaters in primary education because the children automatically progress from Year 1 to Year 6 and secondary school. Female children show a higher survival to the last grade of primary at 97.31% compared to male children at 95.49%. However, the primary transition to secondary education indicates that female children have a lower percentage of 90.42% compared to male children of 91.66%. Table 8 shows that the Malaysian government has spent 19.74% of the total government expenditure on education, and greater emphasis is given on the tertiary education, and this indicates that the nation places a high portion of the budget on education.

Table 7: Malaysia progress and completion in education

	MALE	FEMALE	TOTAL	Recent data (year)
School life expectancy ISCED 1-8 years	13.34	14.04	13.68	2017
Percentage of repeaters in primary (%)	0	0	0	2017
Survival to the last grade of primary (%)	95.49	97.31	96.38	2016
Gross intake ratio into the last grade of primary (%)	97.99	101.99	99.49	2017
Primary to secondary transition rate (%)	91.66	90.42	91.05	2016

Source: (http://uis.unesco.org/en/country/my)

Table 8: Malaysia expenditure on education

Government expenditure on education		
as % of GDP	4.53	2018
as % of total government expenditure	19.74	2018
Government expenditure per student (inPPP$)		
Primary education	4,841.78	2017
Secondary education	6,778.88	2018
Tertiary education	7,529.63	2018

Source: (http://uis.unesco.org/en/country/my)

The Government launched the Malaysia Education Blueprint in 2013 to define the course of education reform over the next decade and to respond too many of the challenges faced by the system. The Blueprint sets several ambitious goals including, i) Universal access and full enrollment of all children from preschool to upper secondary school by 2020; ii) Improvement of student scores on international assessments such as PISA to the top third of participating countries within 15 years and iii) Reduce by half the current urban-rural, socio-economic and gender achievement gaps by 2020. The Blueprint identifies several reforms that need to be implemented to help achieve these goals. These include:

- To increase compulsory schooling from six to 11 years.
- The introduction of a Secondary School Standard Curriculum or *Kurikulum Standard Sekolah Menengah* (KSSM) and revised Primary School Standard Curriculum or *Kurikulum Standard Sekolah Rendah* (KSSR) in 2017 with greater emphasis on promoting knowledge and skills such as creative thinking, innovation, problem-solving and leadership.
- The introduction of clear learning standards so that students and parents understand the progress expected within each year of schooling.
- The introduction of English as a compulsory subject within the school leaving examination (SPM) from 2016, and an additional language by 2025.
- Increase entry standards for future teachers from 2013, requiring them to be among the top 30% of graduates.
- The definition of clear performance benchmarks ("system aspirations") that will help measure the progress of the reforms with annual reviews.

Every Malaysian child deserves equal access to an education that will enable that child to achieve his or her potential. The Ministry thus aspires to ensure universal access and full enrolment of all children from preschool through to upper secondary school level by 2020 (Ministry of Education Malaysia, 2013).

4.3.2 Early Childhood Education

Every child aged five years and above will be enrolled in a registered preschool, either public or private. Families for poor households that incapable of affording preschool will receive need-based financial support from the Ministry. All preschools will adhere to the national quality standards, including a provision that every preschool teacher has at least a diploma qualification. These schools will also be inspected regularly by the Ministry or the Early Childhood Care and Education Council of Malaysia to ensure that they meet minimum standards (Ministry of Education Malaysia 2013). The Ministry is targeting universal enrolment in preschool for five years and above children, to provide all children with an equal head start through access to preschool. In the promotion to greater equity, the Ministry is already investing heavily in encouraging preschool enrolment as part of the National Key Result Areas (NKRA). Figure 21 indicates that the preschool enrolment increased from 2016 to 2017 from 865,464 to 884,983 (85.4% - 84.3%), the number of public and private preschools has increased from 2016 to 2017 from 49,851 to 50,546, and the preschools that achieved National Preschool Quality Standard indicates an increase in 2016 to 2016 from 23,171 to 23,285 the percentage achieved a minimum standard (97.3% - 98.9%) (Ministry of Education Malaysia, 2018). Moreover, the Figure 21 displays the percentage of enrolment in pre-primary education of female children (100.44%) is higher compared to male children (98.08%). This shows an increase in the enrolment of children in pre-primary education for the past five years. However, it is apparent that the pupils per teacher ratio shows an increase from 2017 (15.32) to 2018 (18.11), and higher than the world average of 17.45 (Figure 22).

The Cabinet has approved in 2016 that the minimum requirement of a preschool teachers is Diploma in Early Childhood and Care Education resulting 44.4% of preschools teachers obtaining at least a diploma qualification in 2017 (Ministry of Education Malaysia, 2018). Malaysia has the highest percentage of trained preschooler teachers among the Five Cluster Countries at 96.6% in 2018 (data.worldbank.org). Malaysia has accomplished the first wave of the MEB 2013-2025 by increasing the number of preschools, enrolment rate between boys and girls and improving facilities of preschool. The ministry will not make early childhood education compulsory. Still, it will ensure the near-universal enrolment for all children by spreading awareness to parents and caregivers on the importance of early childhood education and allocating funds for poor households' families to ensure their kids will have equal access to education.
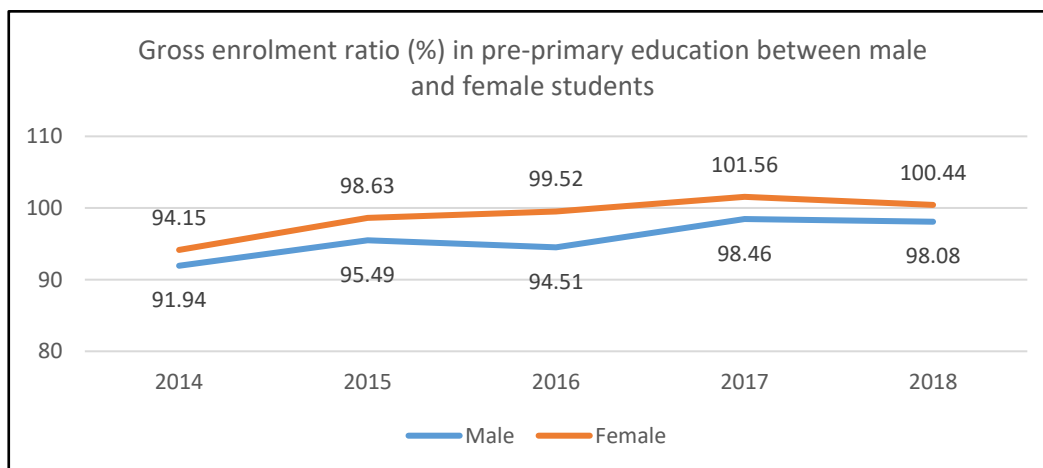
Figure 21: Malaysia gross enrolment ratio (%) in pre-primary education between male and female students
(Source: http://uis.unesco.org/en/country/my)
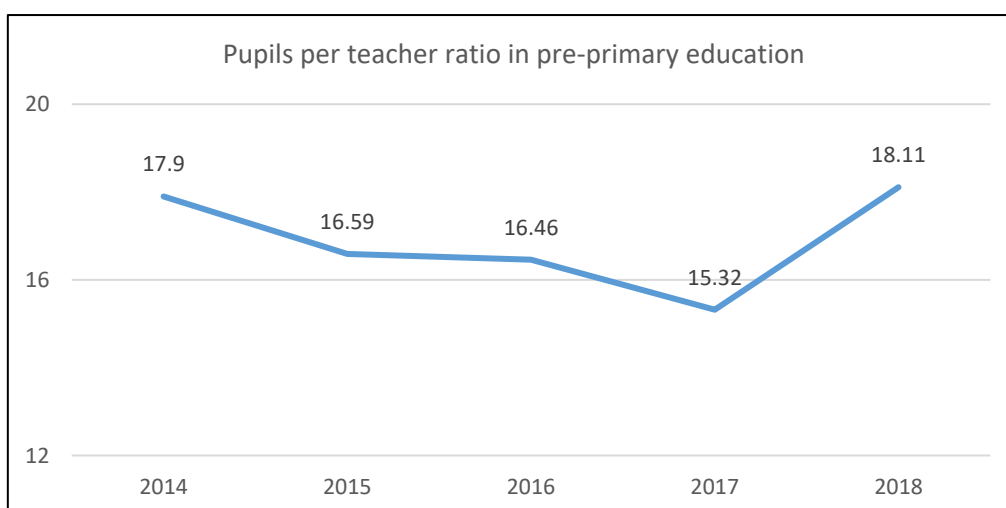
Figure 22: Malaysia number of pupils per teacher in pre-primary education
(Source: http://uis.unesco.org/en/country/my)

4.3.3   Primary Education

Primary education in Malaysia has been almost universal for decades, and all children can have access to it. Primary schools, regardless of the form of institution, follow the Malaysian National Curriculum. The curriculum includes the first language (Bahasa Melayu, Chinese or Tamil), English as a second language, Islamic education, Mathematics, Science, civic or moral education, local studies, physical education, health education, music, and visual arts. The children will sit the *Ujian Pencapaian Sekolah Rendah* (Primary School Achievement Test) at the end of primary school which scores achievement in written and spoken Malay and English, mathematics, and science. All students automatically progress

to secondary school. The curriculum at both primary and secondary level will be updated to include a balanced range of knowledge and skills, such as innovative thinking, creativity, problem-solving and leadership. This curriculum continues to emphasize student-centered and differentiated instruction. Still, it will concentrate more on problem-based and project-based activities, a streamlined range of subjects or topics, and formative assessments (Ministry of Education, 2013).

Based on Figure 23, the gross enrolment ratio (%) shows an increase for the past three years in primary education. Female children show a higher percentage (106.41%) compared to male children (104.62%) by 1.79%. Figure 24 shows a significant increase of pupils per teacher ratio in primary education over the past four years. However, the ratio of pupils per teacher in 2017 (11.66) is lower than the world average of 23.39 in 2017. The percentage of trained teacher in Malaysian primary education is 96.7% in 2019 (data.worldbank.org). Approximately 92% of primary schools have a class size of fewer than 35 students, following the current maximum class size guideline. This ensures that most teachers operate with class sizes below the target range and in schools where the pupils per teacher ratio are at or below the OECD average of 16:1. Schools with a class size of more than 35 students tend to be common urban schools (Ministry of Education, 2013).

To ensure the quality of primary education, the curriculum is revised from time to time, of which the latest revision is the revised Primary School Standard Curriculum or *Kurikulum Standard Sekolah Rendah* (KSSR) in 2017. Besides, explicit learning standards are laid out so that students and parents understand the progress expected within each year of schooling. The gaps in achievement between National School and National-Type School in *Ujian Pencapaian Sekolah Rendah* shows an insignificant difference. It shows that the primary schools provide the same quality and access to education to all children. To encourage and to decrease the number of out-of-school children, children from poor household families receiving basic financial assistance under Poor Students' Trust Fund or *Kumpulan Wang Amanah Pelajar Miskin* (KWAPM) (Ministry of Education, 2013).
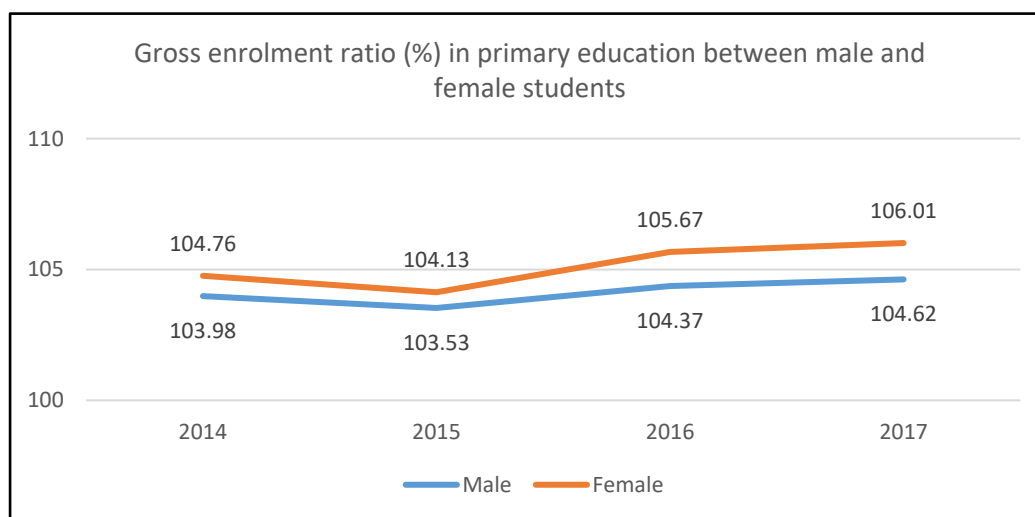
Figure 23: Gross enrolment ratio (%) in primary education between male and female students (Source: http://uis.unesco.org/en/country/my)
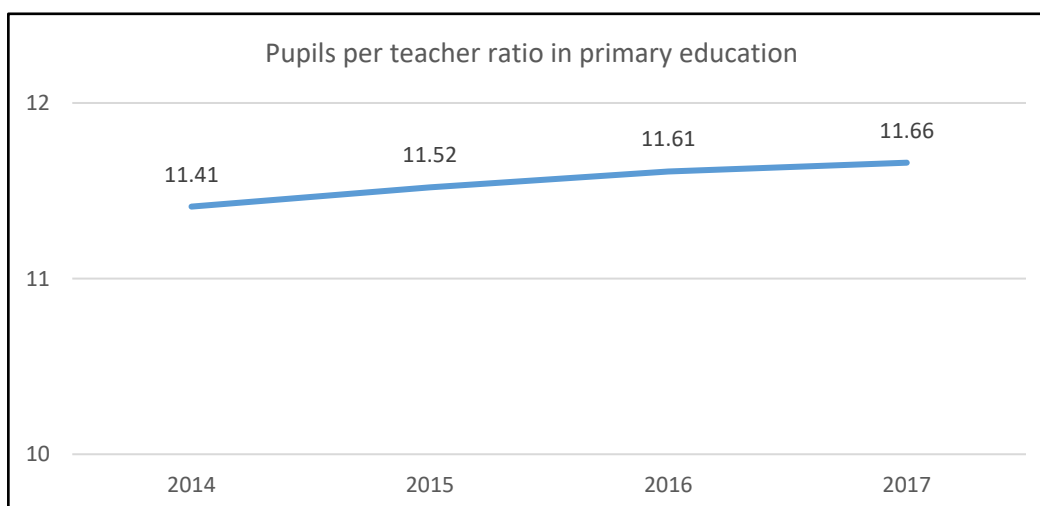
Figure 24: Number of pupils per teacher in primary education
(Source: http://uis.unesco.org/en/country/my)

4.3.4 Secondary Education

The secondary education is divided into two levels, the lower secondary starts at the age of 13 (Form 1 to Form 3) and upper secondary starts at the age of 16 (Form 4 to Form 5). Although the secondary education is not compulsory in Malaysia, the realization of the importance of education can be traced by the high enrolment percentage in lower and upper secondary. The children from the National-Type School will enter one year of preparation class called Remove Class in the secondary school for intensive national language studies before entering Form 1. The core compulsory subjects in lower secondary consist of *Bahasa Melayu*, English, Science, Mathematics, History, Geography, Islamic studies and moral. At the end of lower secondary, the children will sit for Form 3 Assessment or *Pentaksiran Tingkatan 3* (PT3), and the result is used to determine the streams that will be chosen by the children in upper secondary.

There are two streams provided for the children to choose whether science or the art stream in national secondary school when they are in upper secondary. Presently, there are more choices made available for the students such as Islamic studies, technical and vocational subjects in national secondary school. All children in secondary school need to take five compulsory subjects which are *Bahasa Melayu*, English, Mathematics, History, Islamic studies or moral. For the science stream, the children will take the different subject of biology, chemistry, physics, and additional mathematics and for the art stream, the children get to choose accounting, economics, visual arts, literature, geography, and another social science subject. The upper secondary lasts for two years, and at the end of Form 5 the students will sit for *Sijil Pelajaran Malaysia* (SPM), or Malaysian Education Certification that equals to GCE 'O' Level administered centrally by Malaysian Examination Syndicate. The certification will determine the entrance of students to higher education, pre-university, college, or they can start their career life as a minimum qualification.

It is apparent that the gross enrolment ratio (%) in secondary school is decreasing from 2014 to 2018 (Figure 25). Female students show a higher percentage at (85.41%) compared to male students at (78.78%) by (+6.63%) in 2018. Furthermore, the pupils per teacher ratio in secondary education shows a decrease in number for the past three years and Malaysia recorded the ratio of 11.4 lower than the world average 17.0 in 2018 (Figure 26). The percentage of trained teachers for

secondary education is at 93.4% compared to the world average at 78.0% in 2018. The enrolment rate of students is the main concern of the MoE, and in Wave 1 (2013-2015) in MEB 2013-2025, the Ministry will make both lower and upper secondary education to be compulsory by the year 2015 and in line with the international standards on years of compulsory education. More emphasis will be given to the students at risk of dropping out between the progressions from primary to secondary education. Students from poor households will be placed at boarding schools with 70% place to be reserved for them to ensure they will receive a better education.
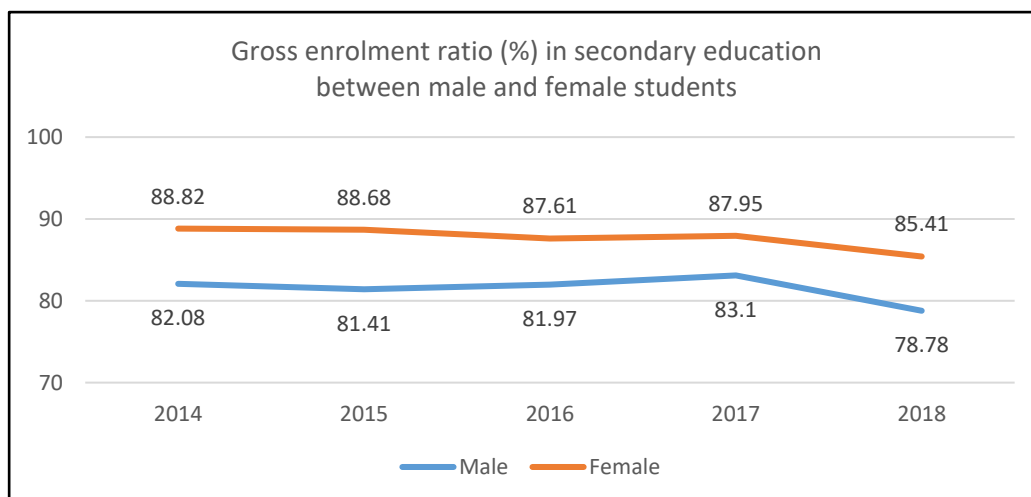
Figure 25: Malaysia gross enrolment ration (%) in secondary education
between male and female students
Source: (http://uis.unesco.org/en/country/my)
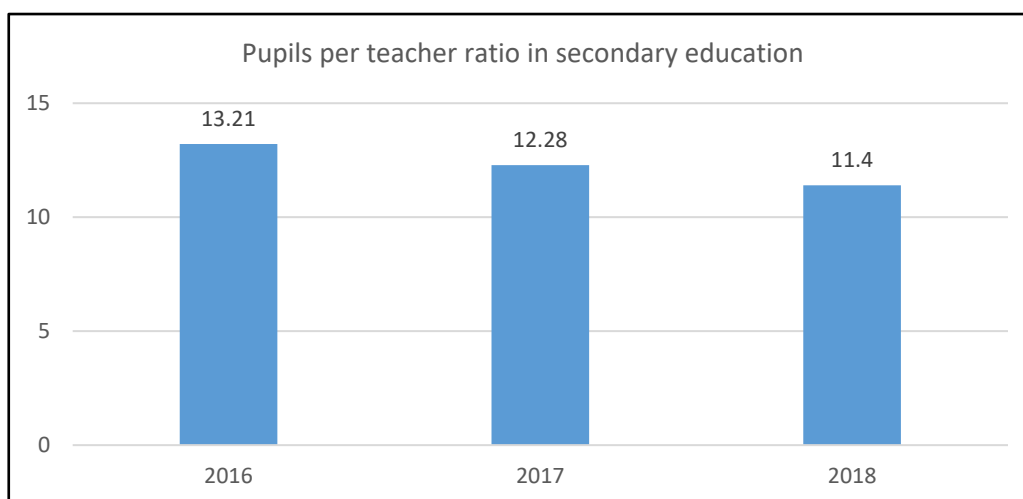
Figure 26: Malaysia number of pupils per teacher in secondary education
Source: (http://uis.unesco.org/en/country/my)

In Wave 2 (2016-2020), programs for high achievers are piloted (top 15% of the student population) and for the gifted student (top 1% of the student population). The high achievers are placed in accelerated classes for them to finish secondary school in four years instead of 5 years and students will have more of educational options and enhancing inclusiveness for special needs students, gifted and specific needs. In Wave 3 (2021-2025), a higher emphasis will be given to students to develop diverse interests, abilities, and talents. This requires various progression pathways to individual students and among pathways offered are academic, technical, vocational, religious, sports and arts. Greater focus on recruiting more counsellor to facilitate and advise the students on career pathways, and by 2020, the ratio of counsellor to pupils will be decreased from 1:450 to 1:350 (Ministry of Education 2013).

In giving broad choices of education field to children in ensuring they are capable to develop their talent is one of the Ministry of Education agenda. Malaysia has provided children with various fields of education such as i) vocational and technical education, ii) sports school, iii) arts school, iv) Islamic religious school, and v) school for gifted and talented (high cognitive ability). In affirming that the marginalized and vulnerable children have access to education, *Sekolah Bimbingan Jalinan Kasih* (SBJK) is an initiative established in 2013 for the purpose of diminish the number of dropouts and to provide safe environment for street children in the vicinity of Kuala Lumpur. Children at SBJK is provision with career opportunities and to develop skills and knowledge (Ministry of Education Malaysia, 2018).

School in Hospital or *Sekolah Dalam Hospital* are provided in 14 main hospitals in Malaysia in assuring children with illnesses who are unable to go to school, to have formal education in the hospital to mitigate learning loss and provides moral and emotional support during their stay in the hospital. *Sekolah Integriti* and *Sekolah Henry Gurney* provided education services to juveniles and young inmates between the age of 14 to 21 years old, thus the students will have equal opportunities to sit the national examinations, for self-improvement, academic and co-curricular activities, and personality development. Fostering value of unity among races in Malaysia remains as one of the Ministry of Education agenda to develop balanced and complete individual by i) initiates Pioneer Program for the module on the inculcation of values of unity for school leaders, ii) National Blue Ocean Strategy (NBOS) Programme for unity in Education, iii) The Unity in Education Roadmap, iv) unity camp and v) character development through co-curricular activities (Ministry of Education Malaysia, 2018).

4.3.5   Literacy and Numeracy

Bahasa Melayu is the official language use in primary and secondary National School and a compulsory subject in National Type School. English as the second language and a compulsory subject in all type of schools. The schools, parents and students are given a choice to learn science and mathematics in Malay or English under Dual Language Programme in primary or secondary schools. The literacy rate by percentage in Malaysia shows a decreasing pattern among female and male youth at the age of 15 to 24 years. The total percentage of literate youth in Malaysia is 96.85% higher compared to the world average of 91.54%. Literate female youth dropped from 97.44% in 2017 to 97.02% in 2018 higher than the world average at 90.27% in 2018. Literate male youth dropped from 97.12% in 2017 to 96.70% in 2018 higher compared to the world average at 92.74% in 2018 (data.worldbank.org).

The current policy on literacy and numeracy called LINUS shows success in helping children struggling with reading, writing and arithmetic to catch up with their cohort. LINUS 1.0 established in

2010 to reinforce Malay language literacy and numeracy starting from Year 1 students. LINUS 2.0 wild build on the triumph of LINUS 1.0, extending to literacy and numeracy in English as well. The Ministry will also improve student access to learning an additional language, subject to availability of resources. By 2020, the most popular additional language options such as Chinese language, Tamil and Arabic, will be offered at more schools. Besides, the teaching of additional languages will be integrated into instruction time at both primary and secondary school levels. Larger schools will ideally offer several additional language options. In comparison, smaller schools will explore leveraging the use of technology to increase the number of additional language options on offer (Ministry of Education Malaysia, 2013). International languages offered Chinese in 80 secondary schools, Japanese in 210 secondary schools, German and French in 221 secondary schools, Arabic in 80 secondary schools, Korean in 69 secondary schools (Ministry of Education Malaysia, 2018).

Regarding Malaysia performance in reading, mathematics and science, Figure 27 shows that the Malaysian students scored lower than the OECD average in science, mathematics and reading (PISA 2018). A smaller segment of Malaysian students performed at the highest levels of proficiency at Level 5 or 6 in at least one subject and a smaller segment of students achieved a minimum level of proficiency at Level or higher in at least one subject. In 2018, Malaysia average mathematics and science performance was above the performance observed in 2009 when the country first participated in PISA and 2012. In reading, the achievement in 2018 was similar in 2009 but higher in 2012. Improvements were found, in general, among both high-and low-achieving students.
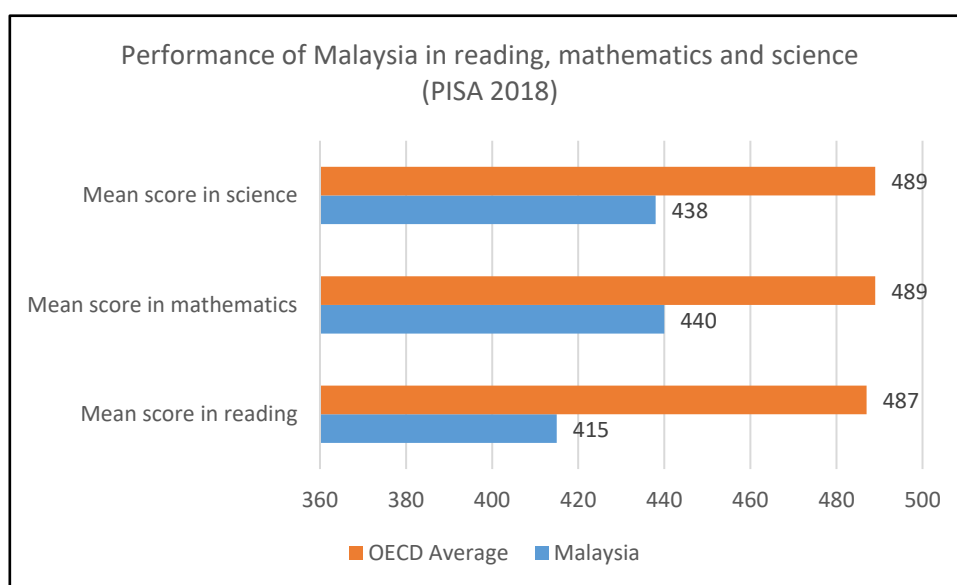
Figure 27: Malaysia performance in reading, mathematics, and science (PISA 2018)
Source: OECD (2019)

Yet, improvements in mathematics were especially strong among the country's highest-achieving students at the 90th percentile, the performance increased by approximately 17 score points per 3-year period (OECD 2019). Malaysia has improved significantly since the first participation in 2009, although the performance is still under OECD average. PISA has changed Malaysia's education landscape, giving a great emphasis on Higher Order Thinking Skills (HOTS) in the curriculum, instructions in the classroom and assessment. Also, as a benchmarking to identify standards and the quality of education compared to other countries. Training by face-to-face and online to improve

Higher Order Thinking Skills delivery is given to 4,243 school leaders and 2017,388 teachers in ensuring that the children are equipped with problem-solving skills, making sound decisions and in the application of knowledge (Ministry of Education Malaysia, 2018). Ministry of Education Malaysia has organized multiple initiative to guarantee that the education is the higher quality, relevant and cohesion with current 21st century environment in preparing children the face challenges ahead as below (Ministry of Education Malaysia, 2018):

i) Integrating Higher Order Thinking Skills in 21st century learning.
ii) Strengthening Science, Technology, Engineering and Mathematics education.
iii) Expanding Literacy and Numeracy Programmes (LINUS 2.0).
iv) Upholding Bahasa Melayu and Strengthening English programme.

4.3.6   Malaysia Response to COVID-19 Pandemic

Schools closed in Malaysia on 18 March 2020 and suspended five million students from learning. The Ministry of Education of Malaysia acknowledges that educational material must be made accessible on other platforms to promote the learning process. The Ministry, therefore, issued circulars and guidelines for the implementation of teaching and learning during the Movement Control Order (MCO) which emphasized home-based learning. This allows teachers to use the online learning solution to provide students with a continuous learning opportunity. The sudden disturbance of schooling has led the Ministry of Education to reassess its objective, especially in terms of providing access to education, so that short-term and medium-term priorities can be achieved.

The Ministry of Education has established a national online teaching and learning network to ensure continuity of children's learning. The Nationwide Network held over 3 million children's learning despite school closures. It will continue to play a significant role following the phased re-opening of school beginning on 24 June 2020 as part of the country's commitment to integrating face-to-face and online learning. The *Komuniti Guru Digital Learning* or the Teachers' Digital Learning Community is a crucial part of the network, created with the help of UNICEF which aims to equip teachers with the skills and information required to deliver online learning effectively and efficiently through a five-module online teacher training programme that includes notes, video tutorials and quizzes on how to prepare an online teacher training course. About 2,400 teachers from more than 1,600 schools around the country have engaged in online teacher training presently.

Besides, digital learning is also supported through EduWeb TV, CikgooTube, e-Guru Portal, and related learning links. The educational TV programme was re-introduced on terrestrial free-to-all TV, which is transmitted on three channels every six hours after the MCO was enforced. This was seen as rational, considering that 96 per cent of households had access to free TV on average. In the case of students with very restricted access, several teachers have made attempts to travel to remote areas and indigenous communities, with the help of the District Health Office and with the approval of the District Office. This ensures that students stay engaged in education throughout the MCO.

The interruption of the learning process caused the Ministry to cancel some of the primary and lower secondary school examinations and to reschedule public examinations for upper secondary and post-secondary students in the first quarter of 2021. The Primary Schools Achievement Test, Form Three Assessment and Matriculation College completion of the semester examination is cancelled. The Malaysia Certificate of Education, Malaysia Higher School Certificate, Malaysia Islamic School Certificate and Malaysia Vocational Certificate among high-stakes examination is rescheduled.

Re-opening schools post Movement Control Order (MCO) would necessitate multi-sectoral coordination because COVID-19 is a public health concern that requires a comprehensive approach to standard operating procedures (SOPs) and tighter protocols. Because of this, the MOE works closely with the Ministry of Health of Malaysia and the National Security Council to ensure that schools are provided with helpful information on how to function safely and efficiently once schools are re-opened. Several guidelines have been planned for the re-opening of post-MCO schools, including:

- **Guidelines on school management post-MCO**: The Ministry of Education has proposed the guidelines on school management Post-MCO. The guidelines focus on health and safety measures to be taken by teachers, supporting staffs as well as students.
- **Staggered re-opening of schools**: Schools will open stagger with priority to allow Form Five and Form Six students to return to school first because they need to sit for high stake examinations. All other levels of schooling will return to school by stages.
- **Increased awareness to stay vigilant and safe**: The MOE will be rolling out a campaign to educate and create awareness on the essential safety measures that students need to practice regularly. This includes social distancing, washing hands, maintaining cleanliness, and avoiding crowds.
- **Engagement sessions with various stakeholders**: The MOE has had various sessions with multiple stakeholders in engaging their opinions before making key decisions related to students' learning. The MoE will continue to seek the opinions of important stakeholders in making decisions that are related to schooling and students' learning.

4.3.7   Findings

This section discussed on how far the education of Malaysia has accomplished to align their policy and plan with the SDG-4 2030 goals. There are six indicators that the survey will try identifying whether the early childhood education, primary education, and secondary education: i) accessible and equitable to boys and girls, ii) provide quality education for all, iii) free for all children, iv) relevant to the current needs, v) effective, and vi) the level of literacy and numeracy of boys and girls. The survey for primary and secondary education is participated by 60 Malaysians consist of 66.7% of female and 33.3% of male from various education level of bachelor's degree 81.7%, master's degree 16.7% and PhD 1.7%. Respondent with experience of less than 5 years is 3.3%, 6 to 10 years experience is 5.0% and more than 10 years is 91.7% with various field of expertise ECCE 1.7%, Inclusive education 1.7%, primary education 45.0%, secondary education 48.3% and teacher policy and training 2.3%. Due to inadequate respondent for the early childhood survey, it will not be discussed in these findings.

i)   Accessible and equitable to boys and girls.

85.0% of respondents agree that primary and secondary education is accessible to boys and girls, Respondents agree that primary and secondary school is available at every district 68.3% and reachable 76.7%. 56.7% of respondents agree that the number of primary and secondary schools is sufficient. Intervention executed for children at risk, for example, immigrant, refugee, out-of-school, CLHIV and disabilities in primary and secondary schools are at 55.0% agree. The attendance percentage of indigenous children (*orang asli*) is increasing significantly from 79.1% (2015) to 87.3% (2017). The percentage of students with special educational needs in Inclusive Education Programme are increase significantly from 23.24% (2015) to 40.88% (2017) (Ministry of Education Malaysia, 2018).

ii)   Quality education for all.

For primary and secondary education, 66.7% agree that the primary and secondary education curriculum is suitable at all level and age and 71.7% agree that talent of children is embraced by specific programs such as sport, arts and gifted. In the aspect of facilities, the respondents agree that the facilities are adequate 51.7%, facilities are sensitive to children 61.7%, sensitive to children with disabilities 60.0%, sensitive to gender 61.7%, facilities are safe 75.0%, education environment is non-violent 70.0% and education environment is inclusive 63.3%. 51.7% of respondents agreed that children in primary and secondary education are provided with free meals. Several respondents stated that students nowadays are not interested to learn and have low motivation with less support from their parents. Achievement gap in the national examination Primary School Achievement Test (UPSR) and Malaysian Education Certificate (SPM) between urban and rural schools getting imminent in 2017. National Average Grade (GPN) for rural school is 3.01 and urban school in 2.76 with a difference of (+0.25) in UPSR and for rural school is 5.22 and urban school is 4.75 with a difference of (+0.47) in SPM. This indicates that the quality of education rural and urban area is nearly equal and children in rural can score as good as urban children in national examination (Ministry of Education Malaysia, 2018).

iii)   Free for all children

In primary and secondary education, the respondents agreed that 83.4% is free for all children, and 65.0% agreed that children could afford primary and secondary education. 66.7% agreed that initiatives executed by the government to keep children in schools by scholarships.

iv)   Relevant to current needs

In primary and secondary education, the percentage of agreeing on the curriculum is relevant in the 21st century is at 65.0%, curriculum aligned with I.R 4.0 is at 68.3%, children are equipped with relevant skills is at 63.4%, emphasis on STEM is at 63.3%, emphasis on ICT programs is at 68.3%, and emphasis on character building is at 63.4%. However, most respondents agree that the curriculum is relevant, from the open-ended survey, some state that the curriculum is too packed and frequently changed. The curriculum should be more flexible.

v)   Effective education

In primary and secondary education, the respondents agree at 43.4% that the number of teachers is sufficient in primary and secondary schools. 71.7% agreed that monitoring agencies or authorities play an effective role in ensuring the quality of primary and secondary education. 66.6% agree that government spend ample expenditure on primary and secondary education. The respondents agreed that 68.3% of children performed well in academic, and 66.7% of children performed well in non-academic. Facilities of primary and secondary education are promoting effective learning agreed by 70.0%, and facilities are upgraded from time to time agreed by 63.3% and facilities is adequate agreed by 65.0%.

From the open-ended survey, several respondents stated that facilities in terms of ICT should be upgraded because it widens the gap of equal education between urban and rural school. Facilities on only facilitate learning but also motivate teachers to teach and students to learn. Several respondents stated that many programs carried out in school and teachers were burden by non-teaching activities as well as an administrative task. Due to the immense workload, teachers become ineffective. The ratio of pupils per teacher in high in several localities, especially in the urban area. The

demand to have more school or to recruit more teachers to be taken into consideration. Some respondents declared that the need for more support from higher authorities in facilitating schools to operate optimally.

vi)   Literacy and numeracy

Literacy and numeracy refer to the agreement of respondent on the most student can read and count in primary and secondary schools. The respondent agreed that 73.3% of the boys could read, while 76.3% of girls can read. Initiatives executed to improve literacy in boys and girls in primary and secondary schools is agreed at 76.7%, and 66.7% agree that programs related to the improvement of literacy in primary/secondary education are effective. 70.0% of boys can count, and 73.4% of girls can count agreed by the respondent. Initiatives executed to improve numeracy in boys and girls in primary and secondary schools is agreed at 70.0%, and 61.6% agree that programs related to the improvement of numeracy in primary and secondary education are effective.

4.4   THE PHILIPPINES

The Philippines, in the western Pacific Ocean, is the island nation of Southeast Asia. It is made up of 7,100 islands and islets. The capital city is Manila, and the currency is Pesos (PHP). The official language of the Philippines is English, and most spoken language is Tagalog. The energy-rich Philippines could develop a strong industrial economy, but the country remains mainly agricultural. In particular, a high level of domestic and foreign investment encouraged rapid industrial growth at the end of the 20th century. The Philippines emerged as a regional education powerhouse in the late 20th century, with a well-established public school and university system and one of Asia's highest literacy rates in the early 21st century. The ethnically diverse inhabitants of the Philippines are called Filipinos. Culturally and linguistically, the current Filipino community has about 100 distinct ethnic groups. The Philippines is a member of Asia-Pacific Economic Cooperation (APEC), the Association of South-East Asian Nations (ASEAN) and the United Nations (UN). Social-economic indicators of Philippines are summarized in Table 9.

Table 9: The Philippines social-economic indicators

Total population (in thousands)	106,651
Annual population growth (%)	1.40
Population 15-24 years (in thousands)	20,338
Population aged 14 years and younger (in thousands)	32,022
Rural population (% of the total population)	53
Total fertility rate (birth per woman)	2.60
Infant mortality rate (per 1,000 infants)	22
Life expectancy at birth (years)	71
Prevalence of HIV (% of population aged (15-49 years)	0.10
Poverty headcount ratio at $1.90 a day (PPP) (% of the population)	6.10
GDP per capita –PPP$	9,277
Annual GDP growth (%)	6.00
Total debt service (% of GNI)	2.30
GDP in billions – PPP$	1,003

(Source: http://uis.unesco.org/en/country/ph)

4.4.1 Overview of Philippines Education

Establishment of the Kindergarten Education Act in 2012 where pre-primary education is mandatory to all children in the Philippines, has boosted the enrolment of children to preschools. The kindergarten is a part of primary education, or *Paaralang Elementarya* starts at age 5 to 12 years old from grade K to 6. Children will enter lower secondary school of *Paaralang Sekundarya* start at age 7 to 10 years old from grade 7 to 10. After the completion of lower secondary school, the children will progress to upper secondary school, or *Mataas Na Paaralan* starts at age 11 to 12 of grade 11-12 (Figure 28). The deployment of the K to 12 Basic Education Program is one of the country's main educational reforms. The action plans to launch programmes and initiatives aimed at expanding and enhancing the delivery of basic education in the country. It intends to provide the Filipino learners with the skills and competence they need to train them to meet the challenges of the 21st century. Department of Education (2016) has divided basic education to four level i) Kindergarten to Grade 3 (Primary Education), ii) Grade 4 to Grade 6 (Middle School), iii) Grade 7 to 10 (Junior High School) and iv) Grade 11 to 12 (Senior High School) adding u to 13 years of basic education. Students in Grade, 6, Grade 10 and Grade 12 will sit for Exit Assessment to determine if the students achieve the learning standards of Elementary, Junior High School and Senior high School curriculum. Department of Education Philippines will certify the completion of out-of-school youth and adults in elementary or secondary education by Accreditation of Equivalency Assessment (Department of Education 2016).
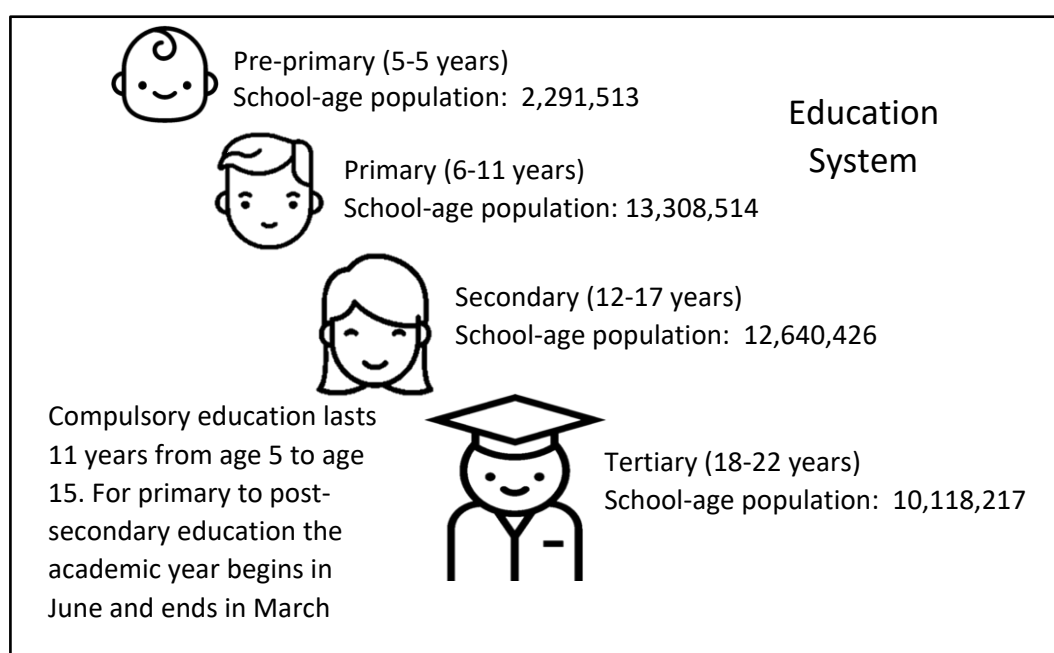
Figure 28: The Philippines education system
(Source: http://uis.unesco.org/en/country/ph)

Based on Table 10, female children show a higher school life expectancy of 13.50 compared to male children 12.82 by (+0.68). Female children percentage of repeaters in the primary is lower 0.87% compared to male children 1.91% by (-1.04%). Survival to the last grade of primary shows that female children percentage 95.20% is higher than male children 90.74% by (+4.46). The primary to secondary transition rate of female children 96.97% is higher than male children 96.23% by (+0.74%). The Philippines spends 2.53% of the total GDP on education in 2009 (data.worldbank.org).

Table 10: The Philippines progress and completion in education

	MALE	FEMALE	TOTAL	Recent data (year)
School life expectancy ISCED 1-8 (years)	12.82	13.50	13.15	2017
Percentage of repeaters in primary (%)	1.91	0.87	1.41	2017
Survival to the last grade of primary (%)	90.74	95.20	92.86	2016
Gross intake ratio into the last grade of primary (%)	107.8	109.61	108.68	2017
Primary to secondary transition rate (%)	96.23	96.97	96.59	2016

(Source: http://uis.unesco.org/en/country/ph)

4.4.2 Early Childhood Education

The Early Childhood Care and Development Act with a continuous inter-agency and multi-sectoral partnership to ensure the delivery of holistic services to children up to six years of age. Republic Act (RA) No.8980 (The Early Childhood Care and Development Act) to guarantee the delivery of holistic services to children up to 6 years old. On 20 January 2012, The Kindergarten Education Act 2012 was enacted, making kindergarten compulsory for all learners. As specified in the Enhanced Basic Education Act 2013, kindergarten is the first stage of compulsory and compulsory formal education, which consists of one year of preparatory education for children at least five years of age as a prerequisite for Grade 1. The kindergarten curriculum is represented by the Kindergarten Curriculum Guide (KCG), which sets out the required standards and competencies for Filipino learners aged five years. The KCG is the basis for the everyday tasks set out in the Teacher's Guide. National Early Learning Framework (NELF) develop by the Early Childhood Care and Development Council (ECCD) in 2016 focusing on childhood growth and development, learning program development, and learning assessment (Department of Education, 2019).

The percentage of gross enrolment ratio between male and female of pre-primary education in Philippines displays an increasing pattern from 2016 to 2018 (no data for 2017) (Figure 29). In 2018, female children showed a lower enrolment percentage of 98.1% compared to male children of 101.4%. Moreover, the number of pupils per teacher in pre-primary education shows a decrease in number from 33.63 in 2016 to 27.08 in 2017 (by -6.55), but higher compared to the world average 17.72 in 2017 (Figure 30). However, the greatest advances have been made in early childhood education. Following the implementation of a mandatory one-year Kindergarten Education Act in 2012, the net enrolment rate in kindergarten has risen from 55% (2010) to 74.6% in 2015. It is apparent that poor families have benefited from the reforms in pre-primary enrolment levels in the Philippines, compared with rates other middle-income countries (wenr.wes.org).

Figure 29: The Philippines gross enrolment ratio (%) in pre-primary education between male and female students
Source: (http://uis.unesco.org/en/country/ph)
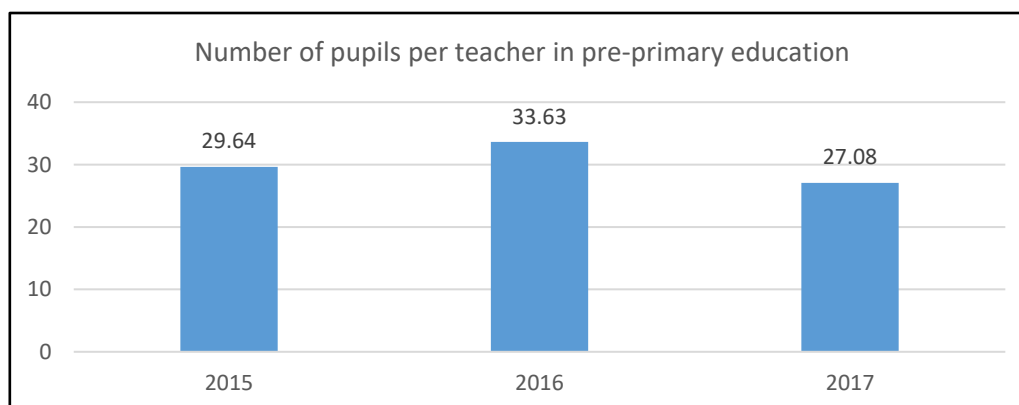
Figure 30: The Philippines number of pupils per teacher in pre-primary education
(Source: http://uis.unesco.org/en/country/ph)

4.4.3   Primary Education

Elementary education in the Philippines consists of six years of schooling in grades 1 to 6 (ages 6 to 12). Before the implementation of the K-12 reforms, elementary education was the only compulsory component of the educational system. However, with the changes, compulsory education has been extended and is now compulsory for all years of schooling, including grade 12. It is also mandatory for children to complete one year of pre-school kindergarten education before enrolling in elementary school. Although it seems that this practice is not yet standardized across the world, the existing law allows all children to enroll in kindergartens at the age of five. Pre-primary education, like all other aspects of public schooling, is free of charge in public schools. Upon fulfilment of the compulsory pre-school year, students are eligible to enter elementary school. The elementary school curriculum has recently been updated. It includes regular subjects such as Filipino, English, Mathematics, Science, Social Sciences, History and Culture of the Philippines, Physical Education, and the Arts. One noteworthy and significant change, however, is that in the first years of elementary education, minority languages ('mother tongues') are now being used as the language of instruction in areas

where these languages are lingua franca. English and Filipino are adopted as instruction languages from grades 4 to 6 in preparation for their exclusive use in junior and senior secondary schools.

Based on Figure 31, the enrolment of children in primary education indicates a declining pattern from 2014-2017. Female children percentage is lower 105.52% compared male children 109.41% by (-3.89%). Figure 32 shows that the number of pupils per teacher ratio indicates a declining pattern from 2014 to 2016 but slightly increased at 29.08 in 2017 higher than the world average of 23.34 by (+5.74). The Enhanced Basic Education Act of 2013 also stipulates that elementary education applies to the second stage of mandatory basic education consisting of six years of age, which is the age requirement for Grade 1. The main goal of elementary education is to help learners build a sound base of literacy, numeracy, social and analytical skills that will provide a solid foundation for lifelong learning. The goals of the objectives are to involve them in rich, lively, culture-based and meaningful encounters in which they gain knowledge that relates to and links to learning areas. Initiatives such as Multigrade Program, Homeroom Guidance Program (HGP) for Elementary Pupils and Special Curricular Program (SCP) would facilitate children to get access to education, be prepared to life and future career, and giving a choice to children to develop special talent.
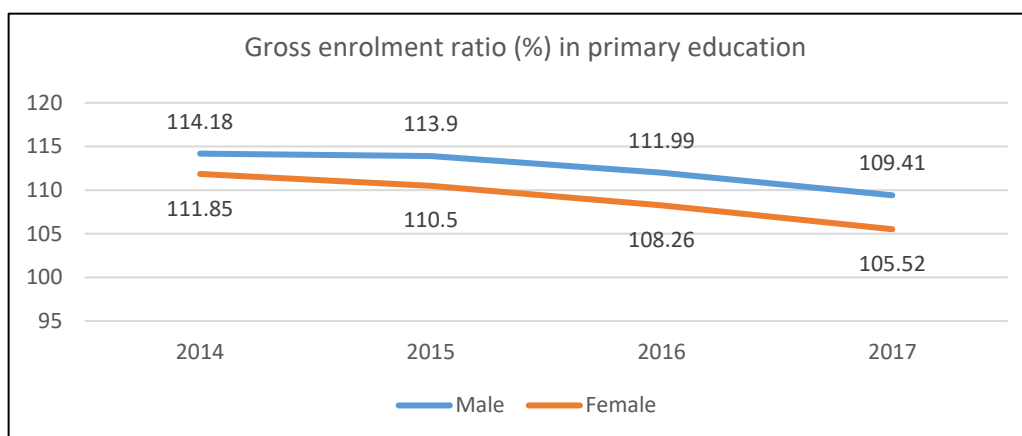
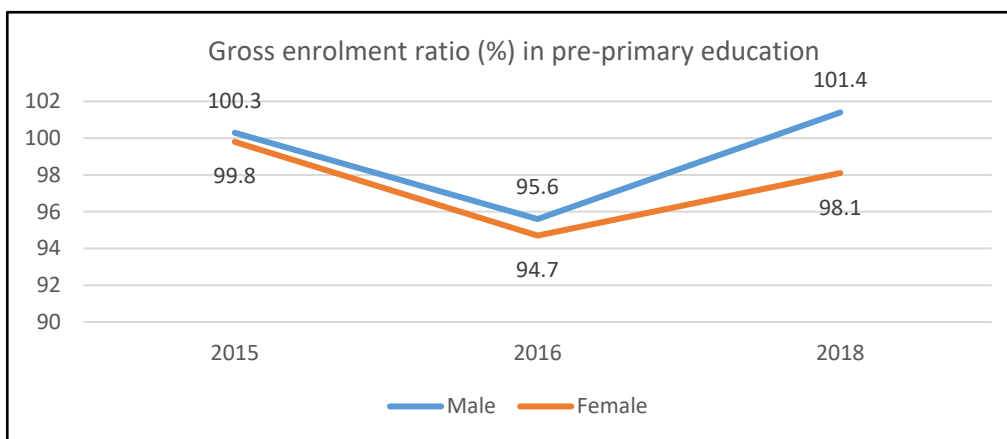Figure 31: The Philippines gross enrolment ratio (%) in primary education between male and female students
Source: (http://uis.unesco.org/en/country/ph)
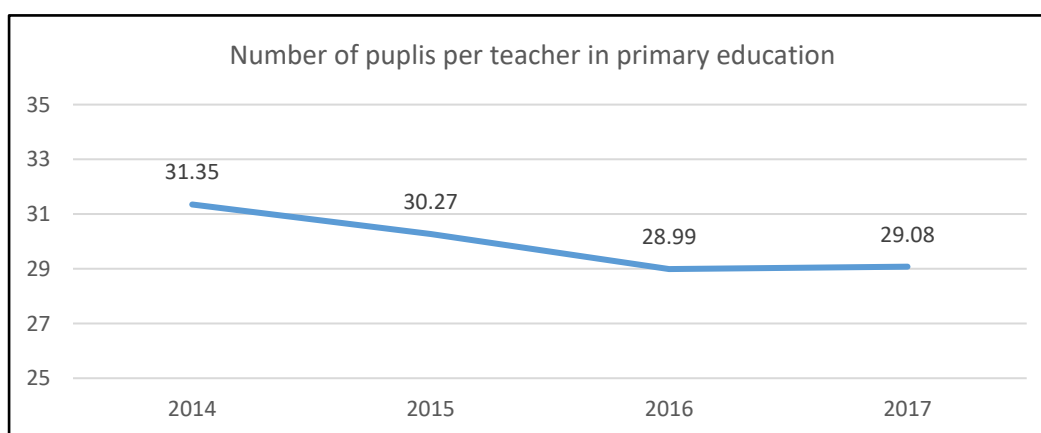
Figure 32: The Philippines number of pupils per teacher in primary education
Source: (http://uis.unesco.org/en/country/ph)

4.4.4   Secondary Education

On May 15, 2013, the Enhanced Basic Education Act of 2013 was passed into law adding two years of Senior High School (SHS) to broaden the goals of high school education for college preparation, vocational and technical career opportunities as well as creative arts, sports, and entrepreneurial employment. Secondary Education is composed of 2 key stages that are Junior High School (Grade 7 to 10) and Senior High School (Grade 11 to 12). Republic Act (RA) No.10533 (Enhanced Basic Education ACT 2013) adding 2 years to Senior High School to broaden the goal of high school education to strengthen the preparation to college, vocational and technical career opportunities as well as creative arts, sports, and entrepreneurial employment. At the end of grade 10, students were awarded a Certificate of Graduation and would progress either to higher education, TVET or start their career. With the enactment of the K-12 reforms, secondary education was extended from four to six years and divided into two levels. Four years of Junior High School (JHS) and two years of Senior High School (SHS), giving the basic education cycle a structure of K+6+4+2. All six years of secondary education are compulsory and free of charge in public schools. However, as the construction of public high schools and classrooms still lags the need generated by the K-12 reforms, a new voucher scheme was placed in place to subsidize SHS studies in private schools. That said the voucher amount is capped and does not completely cover education in most private schools, putting this choice out of reach for poor families (www.deped.gov.ph).

Percentage of gross enrolment ratio of children enrolment in secondary school does not show much change between 2014 to 2017 (Figure 33). It is apparent that the percentage of female children is higher (90.65%) compared to male children (81.97%) with a difference of 8.68%. Based on Figure 34, there is a slight increase of number of pupils per teacher from 23.52 in 2016, to 23.88 in 2017 (by +0.36) compared to the world average of 16.94 in 2017. In recent years, gifted education in the country has been limited to selected special programmes in science and mathematics, the Headstart Program and a gifted special education in selected public schools. The Philippine Science High School System under the Department of Science and Technology (DOST) has been developed for gifted high school students in science and mathematics. The government also founded the Philippine High School for the Arts, which is part of the National Commission of Culture and the Arts (NCCA), to cultivate talented students in the field of music and the arts. Gifted education is mainly provided by prestigious private schools in selected cities throughout the country. There are also few skilled associations and talented education advocates in the Philippines (Pawilen & Manuel, 2018).

The Philippines education system is different from other sub-regional countries where the student assessment will be accumulated to be promoted to the next grade. The core curriculum of the Junior High School contains the same subjects as the elementary curriculum, and English and Filipino are used as the language of instruction, depending on the subject. Students interested in pursuing TVET will at the same time begin to study Technology and Livelihood Education (TLE) subjects in grades 7 and 8 and can study these subjects more intensely in grades 9 and 10. Senior High School comprises of two years of specialized secondary education at the age of 16 to 18 from grades 11 and 12. Students are distributed to academic specialization pathways with distinct curricula. Before enrolling, students may choose a specialization course, being limited in their choice only by the availability of that specialization at the school they wish to attend. The four tracks are i) Academic Track, ii) Technical-Vocational-Livelihood (TVL) Track, iii) Sports Track and iv) Arts and Design Track. Embracing diverse

learner and freedom of choice various streams made available for children in secondary school and the special features includes (Department of Education, 2019):

i) The Multigrade Program
ii) Homeroom Guidance Program (HGP)
iii) Program for Gifted
iv) Special Curriculum Program
- Special Science Elementary School (SSES)
- Special Program in the Arts (SPA)
- Special Program in Sports (SPS)
- Special Program in Journalism
- Special Student Government (SSG) and Special Education Program (SpEd).
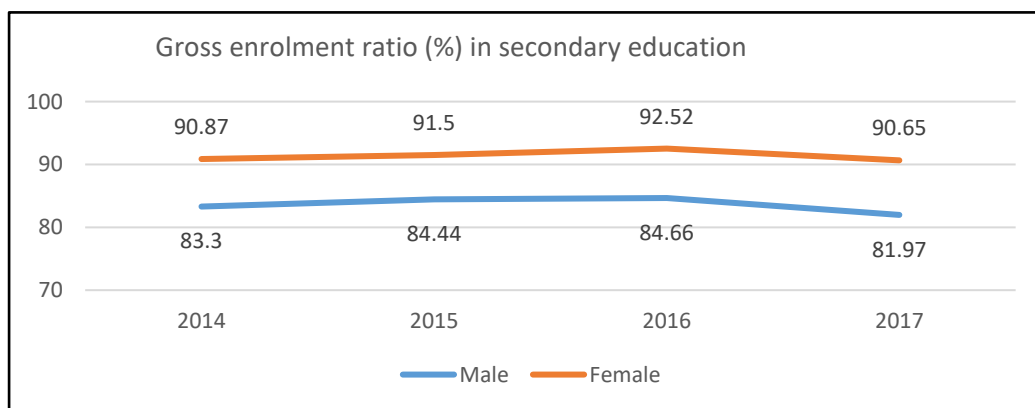
Figure 33: The Philippines gross enrolment ratio (%) in secondary education between female and male
(Source: http://uis.unesco.org/en/country/ph)
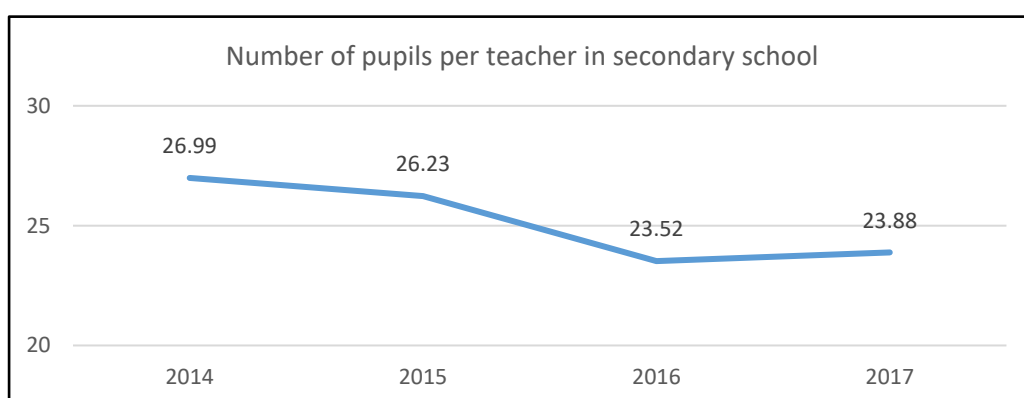
Figure 34: The Philippines number of pupils per teacher in secondary school
(Source: http://uis.unesco.org/en/country/ph)

4.4.5 Literacy and Numeracy

The literacy rate of youth age 15 to 24 years in the Philippines is at 99.08% in 2015 is higher than the world average at 91.03 in the same year. The female youth age 15 to 24 years old shows an increase in literacy rate from 98.49% in 2008 to 99.23% in 2015 higher compared to the world average of 89.43%. The male youth age 15 to 24 years also shows an increase in literacy rate from 97.02% in 2008 to 98.90% in 2015 higher compared to the world average of 92.54% (uis.unesco.org). This indicates that the Philippines is among Asians countries that have a high literacy rate. Presently, 19 languages being used as the medium of teaching and learning in the Philippines. The Department of Education launched the mother-tongue multilingual education (MTB-MLE) in 2009, and this was legally verified in 2013 when the Enhanced Basic Education Act was enacted. This programme is targeted for the children who do not speak or understand the official school language when they started schooling where the student learns to read and write in their mother tongue first, "first-language-first".

Obviously, any native learner speaks several languages until he or she is introduced to English, making it a third language or "another language" to learn. Eventually, the native learner has to deal with difficulties in developing vocabulary in English as an academic subject and as a means of formal oral communication in school (Leano, Mat Rabi & Piragasam, 2019). Enhanced Basic Education Act of 2013 (MTB-MLE is a salient part of the implementation of the K to 12 Basic Education Program. The first language is used in the first three grades, transitioning to instruction in English and Filipino from grades four onwards. (Alcazaren & Rafanan, 2017). In this curriculum, students are experiencing a significant change from foundation or a primary to a junior level and the teaching medium of transition from a student's home language, Filipino, to English (Ganed & Morales, 2018). The determination of students' attainment in learning standards at the end of Grade 3 Early Language, Literacy and Numeracy (ELLNA) is established beginning of school year 2016-2017 for English, Filipino and 19 mother tongue language depending on locality (Department of Education 2016). Curriculum adhere to the principles of framework of Mother Tongue-Based Multilingual Education (MTB-MLE) in the early years (Department of Education, 2019).

MTB-MLE has been deployed as community-based programmes and projects, often with government funding. Still, in the case of the Philippines, it is part of the framework of the National Basic Education Curriculum (Tupas & Tabiola 2017). It is intended to resolve the high functional illiteracy of the Filipinos, where language plays a significant role. Since the child's language helps children to express themselves easily, there is no fear of making mistakes. It helps children to engage positively in the learning process, so they understand what is being discussed and what is being asked of them. They will instantly use their mother tongue to create and describe their universe, to express their thoughts and to add new ideas to what they already know. This would accelerate literacy among Philippines children and build confidence in learning in a conducive environment to speak. However, issues related to teacher training to empower educator to teach mother language and need for children to learn the official language in making them capable of receiving information via multiple platforms that mostly in English to be taken into consideration. Since Filipino learners have been used to studying in their home language as required by the inclusion of mother-tongue based learning at the basic or primary level (Kindergarten to Level 3), the gap in understanding of English language difficulties occurs (Ganed & Morales, 2018). A survey of Grade 2 students estimated about 70% of mothers and fathers to be literate, about 40% of students reported receiving support from their parents to read at home, and 50% of students reported having books other than textbooks at home (Education Development Center, 2015).

Performance of students in the Philippines in reading, mathematics and science indicates achievement that is lower than the OECD average (Figure 35). A smaller proportion of students in the Philippines performed at the highest levels of proficiency (Level 5 or 6) in at least one subject. At the same time, a smaller proportion of students achieved a minimum level of proficiency (Level 2 or higher) in all three subjects compared to the OECD average. 19% of students attained at least Level 2 proficiency in reading. These students can identify the main idea in a text of moderate length, find information based on explicit, though sometimes complex criteria, and can reflect on the purpose and form of texts when explicitly directed to do so. Some 19 per cent of students in the Philippines have achieved level 2 or higher in mathematics. These students can perceive and understand, without direct guidance, how a (simple) situation can be interpreted mathematically. Some 22 per cent of students in the Philippines have achieved level 2 or higher in science. These students may recognize the correct explanation for familiar scientific phenomena. They may use that information to identify, in simple cases, whether the conclusion is valid based on the data presented. The participation of the Philippines in the international assessment reflects that the country is deliberate to benchmark their students' abilities whether they are equivalent to other top performing countries and to assess the nation's quality of education.
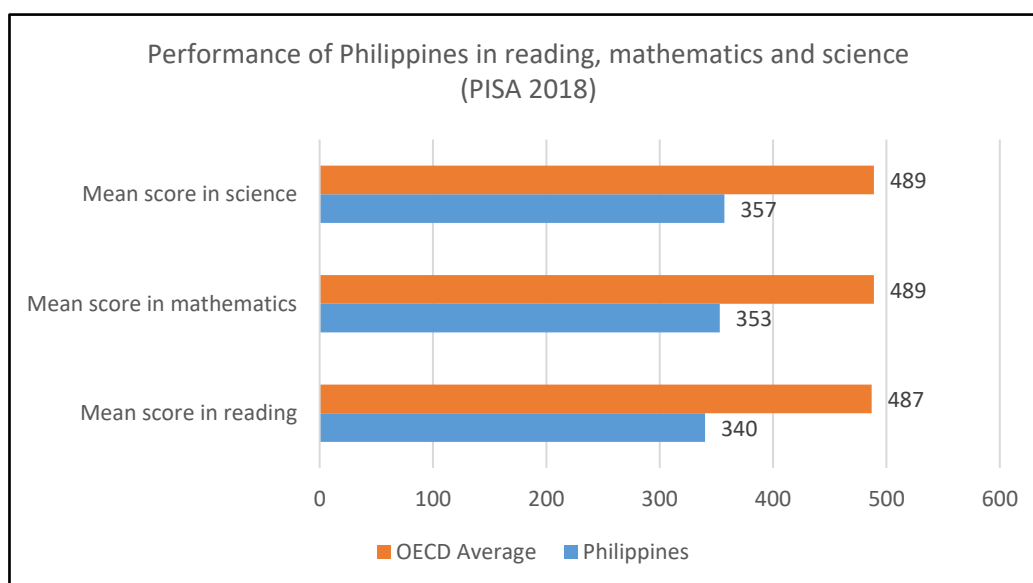
Figure 35: Performance of Philippines students in reading, mathematics, and science (PISA 2018)
Source: OECD (2019)

4.4.6   Philippines Response to COVID-19 Pandemic

About 30 million individuals in the Philippines basic education, represents about 27.8% of the current Philippine population. The magnitude of moving and assembling students, teachers, and education personnel nationwide if schools open traditionally, is the main concern of basic education in the Philippines. Since the full containment of COVID-19 is not yet attained, suspension of face-to-face classes was remained mandatory in areas categorized as Moderate and High Risk, based on risk severity grading by the Department of Health. Face-to-face classes with adjustment of size and social distancing might be allowed in Low-Risk areas, but with the worries of outbreak resurgence at any time. Department of Education (DepEd), with the inputs from departments, education forum, Senate

Committees on Basic Education, and an online survey, has developed the Basic Education Learning Continuity Plan (BE-LCP). This plan is to guide the delivery of education without neglection of health, safety, and welfare of all students, teachers, and education personnel. The Department of Education has embarked several measures to ensure the continuity of learning and the safety and health of the school community as below:

- Reframe the curriculum to the Most Essential Learning Competencies (MELCs)
- Diversify mode of delivery, with blended learning and distance learning as major options
- Prepare teachers and school leaders for multiple learning delivery modalities
- Required Health Standards in Schools and Workplaces
- Reconfigured the annual school opening activities
- Finance, procurement, and delivery
- Monitoring, evaluation, and adjustments.

Education Futures Unit was set up before COVID-19 pandemic to formulate solutions to basic education problems and challenges. Several key areas have been proposed to prepare the education system in the Philippines to the future. However, the first key area, i.e., explore technologies for remote learning, has not been highlighted. Remote learning is the only method to be implemented during the COVID-19 pandemic due to the closure of schools. However, most of the countries have not been prepared with the full implementation of remote learning, especially in the remote area. Some lessons to be learned were mostly related to the implementation of remote learning in the country, especially in the aspects of equity, equality, and accessibility.

Teachers readiness in terms of knowledge and skills to implement remote teaching and students' readiness to undergo remote leaning need to be addressed. The DepEd need to overcome the problems of remote teaching and learning and at the same time, not forgetting about the monitoring of students' progress in remote learning. Internet connectivity and remote learning devices are important issues to be overcome to ensure the accessibility of materials when implementing remote teaching and learning. DepEd should have some future planning on accessibility issue, in both hardware and software aspects. This is to ensure all students can have equal chances to access the learning materials, and no one is left behind.

In December 2020, the Cabinet approved to launch a pilot study on face-to-face classes in selected schools within the areas with low COVID-19 risk for the whole month of January 2021 aiming to provide essential experience and learning that will conclude the final recommendation for the Department of Education to make on larger resumption of face-to-face classes (www.deped.gov.ph). The pilot study will be highly selective based on stringent conditions:

- The pilot implementation will take place only in areas categorized as low risk (at least under Modified General Community Quarantine or MGCQ)
- There must be a commitment for shared responsibility of Department of Education, the local government unit (LGU), and the parents or guardians.
- Stringent health and safety standards shall be followed at the home, during travel to and from the schools, and within school premises.
- It is a voluntary participation of students with parents' permit.
- Classes will be implemented in phases or intermittent and will not in full week schedule.
- Class size is reduced to allow proper social distancing.
- Regional directors will nominate schools for the pilot study with consideration of risk classification, documentation of acknowledgment of shared responsibility, students and classroom management plan, and health standard requirements at home, during travel, and in school premises.

- Monitoring will be closely coordinated by the Department with the COVID-19 National Task Force (NTF).
- External organizations are also invited to support, give feedback, and help generate resources to ensure the success of the program.

4.4.7 Findings

This section discusses on how far the education of the Philippines has accomplished to align their policy and plan with the SDG-4 2030 goals. There are six indicators that the survey tried to identify whether the early childhood education, primary education and secondary education is: i) accessible and equitable to boys and girls, ii) provide quality education for all, iii) free for all children, iv) relevant to the current needs, v) effective and vi) the level of literacy and numeracy of boys and girls. The early childhood education survey is participated by 17 Filipino and consist 76.5% for female and 23.5% of male with various education level of Diploma in Education 5.9%, bachelor's degree 41.2%, master's degree 41.2% and PhD. 11.8%. Respondents with year of experience less than 5 years is 23.5%, 6 to 10 years is 5.9% and more than 10 years is 70.6% with various expertise of ECCE 5.9%, primary education 29.4% and secondary education 64.7%.

i)   Accessible and equitable to boys and girls.

Majority of the respondents (82.4%) agreed that early childhood education is equally accessible to boys and girls, and the number of preschools is sufficient at 76.5% to agree. Preschools are available at every district collectively (64.7% agrees), and respondents (64.7%) also agreed that there are initiatives executed by the government to promote girls to participate in early childhood education. Intervention executed for children at risk, for example, immigrant, refugee, out-of-school, CLHIV and disabilities for early childhood education to ensure their participation in preschools is at cumulatively 64.7% agree. One respondent stated that in some locality, the distance of the preschools his far from the children home. Some respondent stated that the lack of parents and caregiver awareness and support on the importance of pre-primary education need to be taken into consideration. Several respondents certain stated that the Department of Education should make emphasis more on the need for diverse learners, especially the special needs children. Flexible Learning Options to the children that unable to go for formal school through Alternative Learning System (ALS) that follow National Curriculum Standards and National Assessment Framework is center-based, community based, blended learning and learning modules (Department of Education, 2019).

ii)   Quality education for all.

The quality of preschool in this topic refers to the quality of care and the quality in preparing preschoolers for primary education. The quality of care consists of providing free meals and facilities that is sensitive to children needs, children with disabilities, gender, non-violent and inclusive. Quality in preparing preschoolers for primary education refers to the curriculum developed for preparation to primary education, the curriculum is aligned with primary education, and most preschoolers achieved a minimum requirement before entering primary education. The agreement on the preschool facilities is sensitive to children's need (76.4% agree). Facilities sensitive to children with disabilities is agreed by 45.7% of the respondents, while 64.7% agreed on facilities sensitive to gender. Majority of respondents (82.4%) agreed that the environment of preschool is non-violent.

Cumulatively, 82.4% agreed on the environment of preschool is inclusive, and 52.9% agreed that preschool provides free meals for children. The respondents (76.4%) agreed that the developed curriculum would prepare preschoolers for primary education, and it is aligned with primary education. Majority of children achieved a minimum requirement before enrolling in primary education is agreed at 52.9%. Several responded certain that the need to focus on children nutrition and preparing free meals of all children in the preschools. In the Philippines, 65% of students reported being bullied at least a few times a month, compared to 23% on average across OECD countries and some 95% of students in the Philippines reported sometimes or always feeling happy (OECD 2019).

iii)   Free for all children

Most respondents (82.4%) agreed that early childhood in the Philippines is free, and 52.9% agreed that all children can afford early childhood education. Cumulatively, 41.2% agreed that there is initiative executed to promote early childhood education by providing scholarship and funding. Some respondents stated that some poor households' families unable to send their kids to school because of poverty.

iv)   Relevant to the current needs

Relevant refers to curriculum and facilities that provide preschoolers with relevant skills and emphasis on character building. Children at preschools are equipped with relevant skills is agreed at 64.7% of total respondents. Collectively, 82.3% agreed that preschool facilities are relevant to current early childhood education needs, and 64.6% agreed that at pre-school level, the emphasis is given on character building. The Philippines has initiated changes in the English curriculum to adapt effectively to the demands of 21st century education and the country's current educational challenges, such as low achievement test scores and overcrowded curriculum. Overall, the existing curriculum will need to strengthen its clarity, precision, and internal coherence, as well as the incorporation of some of the core concepts of 21st century learning and language teaching and learning (Barrot, 2018). Various forms of assessment shall be used to quantify decisions on the academic performance of learners and to measure the success of learners in the achievement of learning standards and 21st century skills (Department of Education, 2016).

v)   Effective compulsory education.

Effective refers to the sufficient number of teachers, monitoring authorities and agencies and government expenditure on early childhood education, facilities that promote effective learning and improved from time to time. Cumulatively, 52.9% agreed that the number of preschooler teachers is sufficient. Monitoring agencies or authorities play an effective role in ensuring the quality of care and curriculum is at 70.6% agree collectively. Facilities of preschool are effective for learning agreed at 82.3% and facilities of preschool is improved from time to time is agreed at 82.3%. Based on the open-ended survey, several respondents stated that they need to improve kindergarten facilities and allocation of learning materials to facilitate teachers to be more effective. Some respondent declared that some preschool teachers do not have the qualification to be a preschooler teacher.

Department of Education should provide training and certification to recruit more teacher because there is lack of teacher, especially in rural areas and the number of pupils per teacher in some locality is high. Filipino learners also encounter inequity in classes undergoing ICT integration. Filipino learners in public schools do not have the complete advantage of ICT integration, as their classroom implementations are under-optimal. However, based on interviews with some users of the website, teachers, students, and parents alike, some classes do not use the platform as optimally designed.

Since some students do not have an internet connection at home (Rambaoa, 2019). The K to 12 curriculum is expanded with the addition of a two-year senior high school offering technical and vocational classes. However, this education reform should not only concentrate on training students for competitive jobs and entrepreneurship, narrowing growth gaps, resolving crowded curricula, and incorporating ICT (Barrot, 2018).

4.5   TIMOR-LESTE

Timor-Leste is also known previously as East Timor, is the youngest nation in the world just attaining independence in 2002. The relative new nation has an area of 4,874 km², is situated in the eastern half of the island of Timor, at the eastern 'end' of the Lesser Sunda Islands, north of the Timor Sea and Australia. Indonesia borders the country in the west and the Savu Sea in the north. The capital and largest city are Dili, and the currency is the US Dollar (USD). Tetum and Portuguese and both are official languages, Indonesian and English are largely spoken. Currently, Timor-Leste's economy is mostly dependent on the extraction of oil reserves from the Timor Sea, which accounts for a massive 80% of GDP, minerals, and agricultural product. Table 11 summarizes socio-economic indicators of Timor-Leste.

Table 31: Timor-Leste socio-economic indicators

Total population (in thousands)	1,268
Annual population growth (%)	2.00
Population 15-24 years (in thousands)	274
Population aged 14 years and younger (in thousands)	479
Rural population (% of the total population)	69
Total fertility rate (birth per woman)	4.00
Infant mortality rate (per 1,000 infants)	39
Life expectancy at birth (years)	69
Prevalence of HIV (% of population aged (15-49 years)	n/a
Poverty headcount ratio at $1.90 a day (PPP) (% of the population)	30.70
GDP per capita –PPP$	3,253
Annual GDP growth (%)	3.40
Total debt service (% of GNI)	0.10
GDP in billions – PPP$	4

Source: (http://uis.unesco.org/en/country/tl)

4.5.1   Overview of Timor-Leste Education

Timor-Leste children may start their quality schooling at the age of 3 to 5 years old in preschool or early childhood education (Figure 36). Primary and secondary education together represent basic education, which should be universal, compulsory, and free in line with the National Education Strategic Plan (2011-2030). It is compulsory to begin with pre-secondary education after the completion of primary school. The educational system of Timor-Leste consists of two to three years of pre-primary education, nine years of compulsory education and three years of secondary education that divided into two tracks the general secondary and secondary technical for the preparation of tertiary education and for the work force. Pre-school education is divided into Group A for 3 to 4 years old and Group B for 5 years old to enter Basic Education, and for children below 3 years old they can

attend the nursery. Basic Education has 3 cycles, Cycle 1 for 4 years (aged 6 to 9) from Grade 1 to Grade 4, Cycle 2 for 2 years (aged 10 to 11) from Grade 5 to Grade 6 and Cycle 3 for 3 years (aged 12 to 14) from Grade 7 to Grade 9 (Global Partnership for Education, 2020). In pre-school, they will develop the basic skills and knowledge to be prepared for basic education. Families, communities, and local governments are involved in the decision-making process, and through collaborative efforts schools are established that meet all the requirements of early childhood education. Ensuring preparation to enter basic education it is important that children attend pre-school education at the right age (GDS, UNICEF & UNFPA (2017).
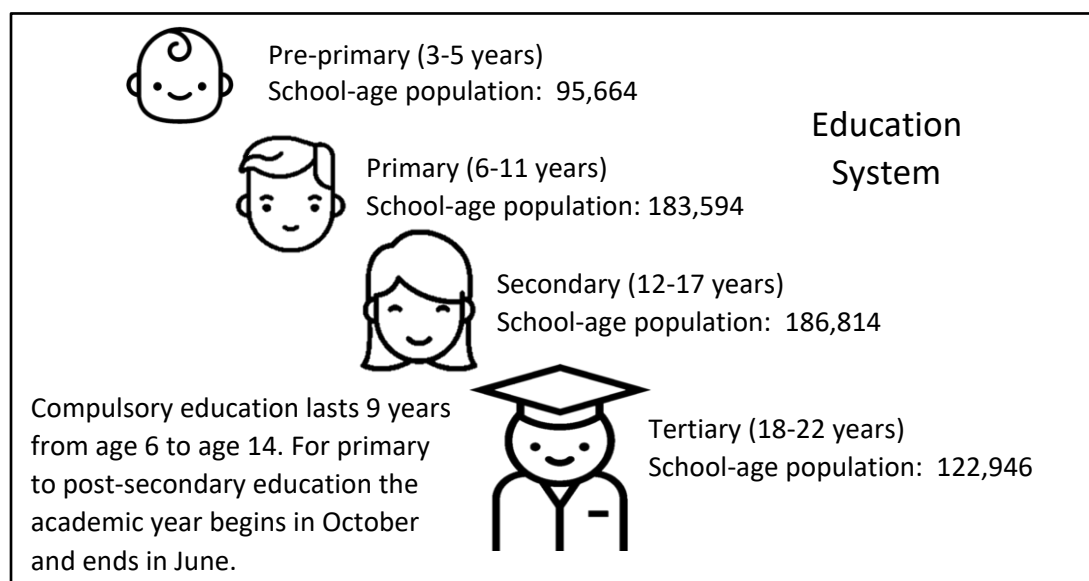
Figure 36: Timor-Leste education system
(Source: http://uis.unesco.org/en/country/tl)

Basic education is universal, compulsory, and provided for free. The basic education reform would implement systematic and guiding directives focused on the following four foundations of learning: i) learning to know, ii) learning to do, iii) learning to work together and with others and iv) learning to be. At the age of 6, all children would have access to basic education. After nine years of education, they will succeed in both the official languages of Tetum and Portuguese and learn English as their first foreign language. They will also develop strong literacy and numeracy skills and learn the core competencies and values of national identity, Timorese history, and culture. Secondary education starts at the age of 15 years old, and the children get to choose whether to learn the core of scientific-humanistic or technical vocational (Ministry of Education Timor-Leste, 2011). Access to education was at 65% in 2005, and this has improved significantly in 2018 referring to the achievement in net enrolment rate (NER) at 89% (primary grade 1 to 6), 93% of girls and 86% of boys. Nevertheless, Timor-Leste is still confronting challenges in uplifting quality of education, measurement of learning outcomes, enhanced water and sanitation at schools, high repetition rate (inability to progress to upper grades) and among others. MEYS has targeted the enrolment rate for pre-school level at 50% by 2015, however only managed to attain gross enrolment rate at 21% in 2018 (UNICEF, 2019).

Based on Table 12, male children have higher school life expectancy of 12.88, compared to female children of 12.00. The percentage of repeaters in primary school shows that male children are higher (15.47%) compared to female children (11.18%). The survival rate of children until the last

grade of primary shows that the female children have a higher percentage of 86.45% compared to male children 79.68%. The transition rate from primary to secondary education of the female children shows a higher percentage of 94.28% compared to male children of 92.14%. Timor-Leste spends less than 10.0% (Table 13) of the total government expenditure on education and the budget emphasis more on tertiary education.

Table 12: Timor-Leste progress and completion in education

	MALE	FEMALE	TOTAL	Recent data (year)
School life expectancy ISCED 1-8 years	12.88	12.00	12.45	2010
Percentage of repeaters in primary (%)	15.47	11.18	13.40	2018
Survival to the last grade of primary (%)	79.68	86.45	82.95	2017
Gross intake ratio into the last grade of primary (%)	101.42	106.34	103.85	2018
Primary to secondary transition rate (%)	92.14	94.28	93.21	2017

Source: (http://uis.unesco.org/en/country/tl)

Table 13: Timor-Leste expenditure for education

Government expenditure on education		
as % of GDP	4.13	2018
as % of total government expenditure	7.93	2018
Government expenditure per student (inPPP$)		
Primary education	570.04	2014
Secondary education	541.46	2014
Tertiary education	1,218.63	2010

(Source: http://uis.unesco.org/en/country/tl)

Timor-Leste's vision for the education sector is that all individuals should have access to quality education that will allow them to participate in the process of economic, social, and political development. Timor-Leste has made significant progress in recent years, especially in terms of the number of schools and the level of enrolment. Within five years, the net enrolment rate increased from 67% to 83% and the gender gap decreased dramatically in basic education. Despite this growth, the education sector in Timor-Leste still faces several challenges. In basic education, dropout and repeat rates are high, but almost half of six-year-olds do not start school at the right age. The National Education Strategic Plan (NESP) 2011-2030 aims to achieve universal completion of basic education, reduce illiteracy, and ensure gender equality through priority programmes, policies and activities in early childhood, primary, secondary, higher, and recurrent education (Ministry of Education Timor-Leste 2011).

In addition, measures will continue, and the government has simplified its ambitious target of ensuring that nine years of basic education is achieved by 2030 and that illiteracy is fully eliminated by 2015. The Millennium Development Goal remains unchanged, as considerable progress has been made, but a great deal remains to be achieved. The most critical goal was to ensure that all 15- to 24-year-olds were literate by 2015 and to try to get as near as possible to universal completion by 2015 to eradicate illiteracy for all age groups. Gender equality was said to be guaranteed by 2015, whereby the goal of education is to ensure that girls have the same opportunities for access to all levels of education by 2015. UNICEF in collaboration with MEYS and Australia, a Training of Trainers was

implemented for 60 participants, in preparation for the testing of functional screening or early detection tools to determine children with learning difficulties in schools across five municipalities in 2020 (UNICEF 2019). This would ensure the equality to all categories of children especially the marginalized for inclusion. Two additional targets have also been set regarding the gender equality in education: i) a large increase in the number of female teachers, and ii) an increase in the presence of women in administrative and managerial positions in the Ministry. Gender is a cross-sectoral issue and specific goals are set out in the Social Inclusion Program of the Plan. Its implementation will be the responsibility of the new directorate, which will be specially set up to ensure the continuity of the cross-section actions and to ensure that the goals set are achieved. Each area of education has a different level of preparation, priorities, objectives, and strategies for the period 2011-2015 (Ministry of Education Timor-Leste, 2011) (Figure 37).

Ensuring Access. Adequate education coverage depends on our capacity for building and renovating a sufficient number of schools and classrooms, which must be adequately equipped and furnished according to the standards set by the Ministry. The plan will aim to ensure that the expansion of the infrastructures is consistent with the enrolment targets.

Quality Education (Teaching quality). It is also necessary to have parallel and complementary development plans to ensure the provision of a sufficient quantity of well trained teachers, who can ensure that delivery matches the education standards defined by the Ministry.

Quality Education (Curriculum and Materials). To make education attractive and relevant, it is necessary to design and implement new curricula in all the educational areas and to provide good quality teaching materials both for students and for teachers. These types of actions are also spread across all educational areas.

Social Inclusion Policy Tools to Ensure Enrolment and Retention. Apart from the areas mentioned above, there are other causes that hold back enrolment and retention. Therefore, a number of social inclusion policy measures have been proposed to strengthen the formulation of the plan in each area.

Figure 137: Timor-Leste Education Strategies for 2011-2015
Source: Ministry of Education Timor-Leste (2011)

4.5.2   Early Childhood Education

In 2002, there were 57 pre-primary schools registered to serve 2,904 children. Of the 57 schools, eight were public, and 49 were private. During this time, the number of early childhood teachers ranged from 128 to 149. The education subsystem is now growing considerably. At the beginning of the school year 2007 to 2008, there were 141 pre-primary schools with 310 teachers and attended by 7,994 students. Enrolment rates are much higher in urban areas than in rural and highland regions. Through the provision of classrooms, communities have made a major contribution to this increase in

early childhood education.   A framework for effective teaching for teachers working with children under six years of age has also been developed and incorporated into the national framework for teacher competence. This has resulted in the recruitment of many pre-school teachers who may or may not have the adequate qualifications required for a job (Ministry of Education Timor-Leste 2011). The approval of the Education Sector Plan (ESP) 2020-2024, the contribution of community-based preschools for 3% points in national gross enrolment and the approval by MEYS of the National WASH in School Strategy (WinS) and Costed Action Plan was a good indicator of progress in 2019 for Timor-Leste (UNICEF, 2019).

The number of enrolments in pre-primary education had increased significantly from 2014 to 2018, whereby the female children show a higher percentage on the enrolment ratio of 22.91% compared to the male children at 22.62% (Figure 38). Moreover, the number of pupils per teacher in pre-primary education has declined from 33.18 in 2017 to 31.8 in 2018 (Figure 39). The world average for the year 2018 is at 17.45 lower compared to Timor-Leste. Male teachers dominate the teaching occupation with a total of 10,030 males against 6,588 females. For all forms of teaching jobs, the number of males is greater than the number of females, except for a small group of early childhood educators. However, the younger age groups of teachers (20 – 29 years) are dominated by women (GDS, UNICEF & UNFPA, 2017). UNICEF is actively collaborating with the Government to finalize quality standards for pre-school and basic education and finalize the Early Childhood Development (ECD) framework (unicef.org).

Early childhood education is intended for children from three years of age to basic education. Participation in pre-school education is facultative and acknowledges that parents and families have a central role to play in the education of children at this age. As regards the organization of the early childhood education system, the Education Act specifies that the State is responsible for ensuring the presence of a public pre-school network. However, the pre-school education network often involves kindergartens from local governments and other private and cooperative bodies, whether collective or individual, such as private civil society organizations, parent associations, resident associations, civic or religious groups and union or employer associations. According to these goals, there will be a need for close cooperation with the socialization and education provided within the family atmosphere and with the educational activities carried out by parents. The New Zealand Government (HANDS Programme) has collaborated with the Government of Timor-Leste to improve the quality of pre-primary education and implemented three medium term outcomes: i) to focus on increasing access, ii) to focus in improving pre-school teaching quality and iii) to focus on in improving the pre-school system along with seven outputs (Clark, McNaughton & Sufa, 2019):

- Pre-school playground.
- Learning materials.
- Pre-service teacher training.
- In-service training.
- Pre-School inspectorate.
- Management and leadership of pre-schools services.
- Community pre-schools.
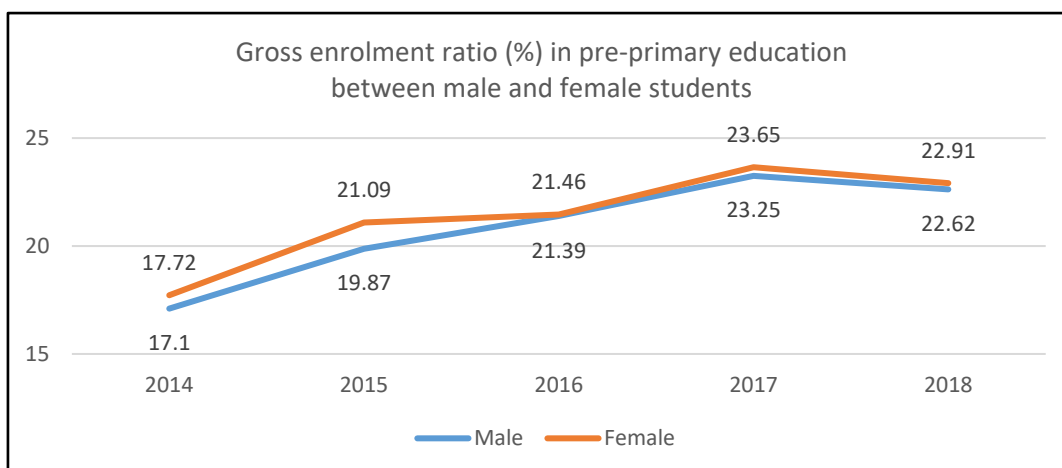
Figure 38: Timor-Leste gross enrolment ratio (%) in pre-primary education
between male and female students
(Source: http://uis.unesco.org/en/country/tl)
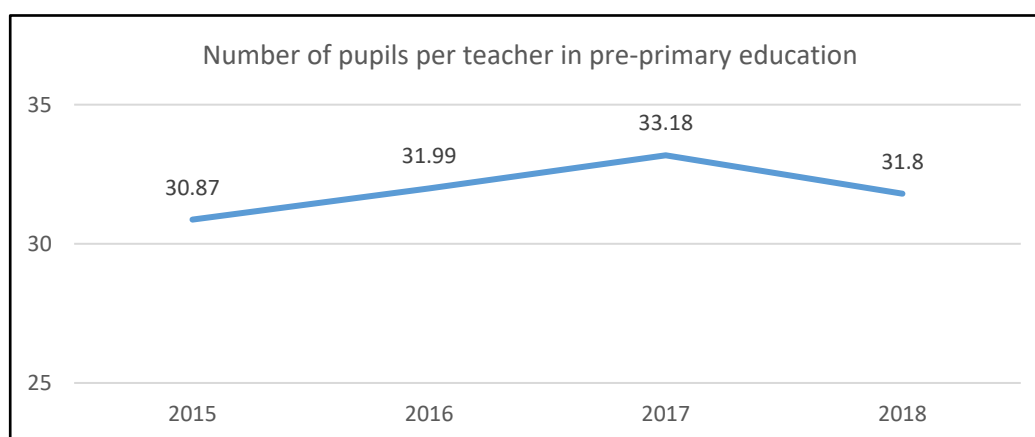
Figure 39: Timor-Leste number of pupils per teacher in pre-primary education
Source: (http://uis.unesco.org/en/country/tl)

4.5.3   Primary Education

The Timor-Leste education system was previously structured in line with the 6-3-3 model of primary education (6 years), pre-secondary education (3 years) and secondary education (3 years). This has now moved to a basic education system, which is compulsory and covers the first nine years of schooling, followed by three years of secondary education. During the first ten years of independence, most of the initiatives to provide access were based on what was previously referred to as primary education (and now the 1st and 2nd cycles of basic education). The structure of the network of schools in the basic education system shows that there are: i) 257 Basic Schools, which provide education for the three cycles (Grade 1 to 9); ii) 667 Primary Schools, which provide education for first and second cycles only (Grades 1 to 6); iii) 360 Filial Schools, which provide education for the first cycle only (Grade 1 to 4). These branch schools are mostly situated in distant or remote areas and are directly connected to the nearest primary or primary schools (Ministry of Education Timor-Leste 2011).

Based on Figure 40, the overall percentage of gross enrolment ratio between male and female students shows a decreasing number from 2015 to 2018. It is consistent that the male children showed a higher percentage of enrolments compared to the females, and in 2018, the enrolment percentage of male children was of 117.33% compared to female children of 113.21%. It is also apparent that the number of pupils per teacher in primary education shows a decrease in number from 27.65 in 2017 to 26.95 in 2018 (Figure 41), which is higher than the world average of 23.44. This indicates that more teacher in primary school needs to be recruited.
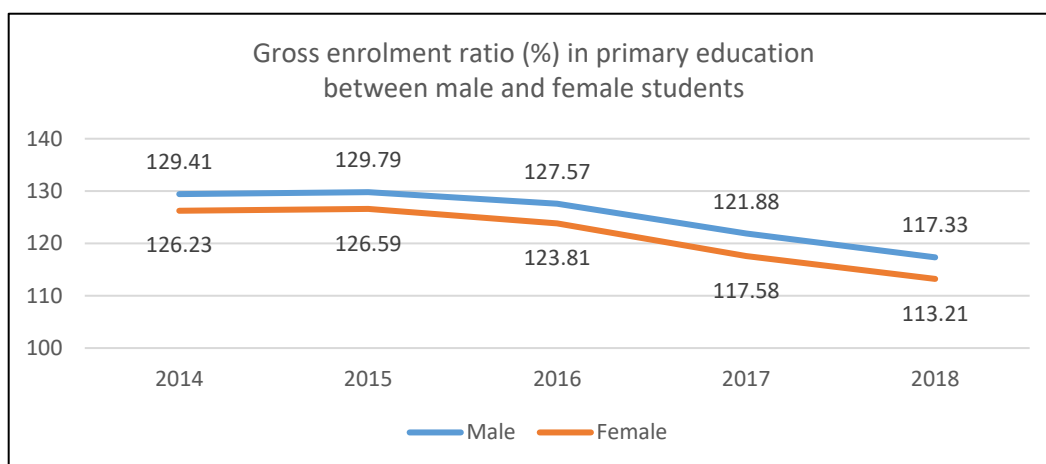
Figure 40: Timor-Leste gross enrolment ratio (%) in primary education between male and female students
(Source: http://uis.unesco.org/en/country/tl)
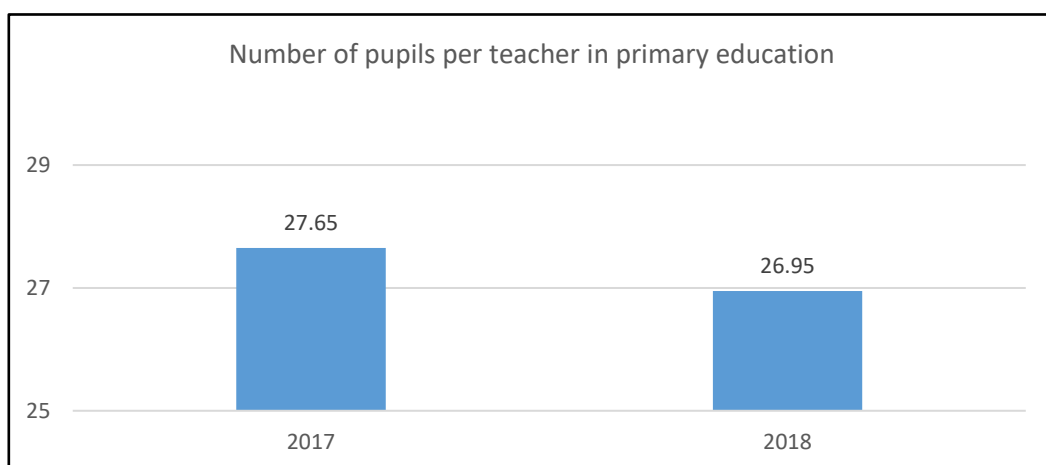
Figure 41: Timor-Leste number of pupils per teacher in primary education
(Source: http://uis.unesco.org/en/country/tl)

At the beginning of the 2009 school year, the country had seen a substantial rise in the number of pre-secondary schools, from 97 in 1999 to 257, of which 207 are public and 50 are private schools. The number of students was also increased significantly from 21,810 in 1999, to 52,378 between 2008 and 2009. A tremendous effort has been made during this decade to have adequate numbers of

teachers in all periods. Progress was reflected in the increase of number of teachers, from 3,860 to 7,358 in primary education. Today, Timor-Leste has 2,307 national teachers, including permanent and temporary teachers. The key problems in basic education in Timor-Leste are summarized below (Ministry of Education Timor-Leste, 2011):

- Not enrolling enough children of the right age.
- Losing far too many children during the educational process.
- It takes too long for children to complete their education, making education very costly for the government. If the education system is efficient, students would graduate from the primary school in six years.

A School Readiness Programme was established to reduce the very high repetition of Grade 1 in municipalities of Ermera and Liquica involving 26 schools and preschools. Accumulatively, 1,415 children participated in the programme, with 570 students were from preschools, 626 students from Grade 1, and 219 students from Grade 5 and 6. Further, there were 265 parents, 375 community members, teachers, and school coordinators (PTA) involved through information sessions and training, and child-to-child peer mentoring by Grade 5 and Grade 6, to facilitate Grade 1 children from better transition and to succeed in basic education (UNICEF, 2019). Timor-Leste has a very clear education policy and plans on Basic Education to cater to issues like accessibility, gender parity, updated and relevant curriculum, teaching quality and learning achievement of the children. With sufficient funding, partnerships with various entities, higher awareness of Timorese on education, it is not possible from them to achieve the Millennium Development Goal.

4.5.4   Secondary Education

Students over 15 years of age are eligible to have access to their secondary education and to acquire the basic scientific-humanistic or technological skills required to pursue their further studies. At the end of their studies, students will learn about the practical application of their expertise to the production processes in Timor-Leste. They will be prepared to participate in the labour market. They are also able to choose whether to continue their studies at the university or the polytechnic level. Participation of the public sector in the potential growth of secondary education is a crucial problem in ensuring equal opportunities for everyone in Timor-Leste. To date, private, non-profit institutions have been impacted by the lack of a well-structured public system to provide adequate quality education. They also played a very important role in ensuring access of the children to education (Ministry of Education Timor-Leste, 2011). UNDP in collaboration with UNICEF piloted a program on ICT in Education aiming 5,350 students in pre-secondary and secondary schools in 15 schools in Oecusse, with completion of all procurement, ICT Handbooks for teachers, secondary-school students and pre-secondary students that were developed in 2019. Interactive educational games were also developed in Tetum and Portuguese languages to facilitate students acquire financial skills and environmental awareness (UNICEF 2019).

The percentage of gross enrolment ratio of secondary school shows a significant increased from year 2014 to 2018. The female children show a higher gross enrolment percentage of 87.03% compared to the male children of 80.30% in 2018 (Figure 42). The number of pupils per teacher shows a decreased in number from 27.28 in 2017, to 26.55 in 2018 (Figure 43), which is higher than the world average of 17.0. However, the public sector network is the only one responsible for ensuring free access to education for everyone. There are also very important supply and demand issues to address students who complete basic education that can enter secondary education directly after completing the basic education. The enrolment in secondary education is optional, however, the Government encourages maximum enrolment of students at this secondary education level. The secondary

education is structured in two ways that are: i) General Secondary Education, and ii) Secondary Technical-Vocational. In recent years, UNICEF had assisted the Ministry of Education, Youth and Sport to establish the Basic Education Law (2008), the Basic Education Law (2010), the National Policy Structure for Pre-School Education (2014), the WASH School Guidelines (2016), and the Inclusive Education Policy (2016).
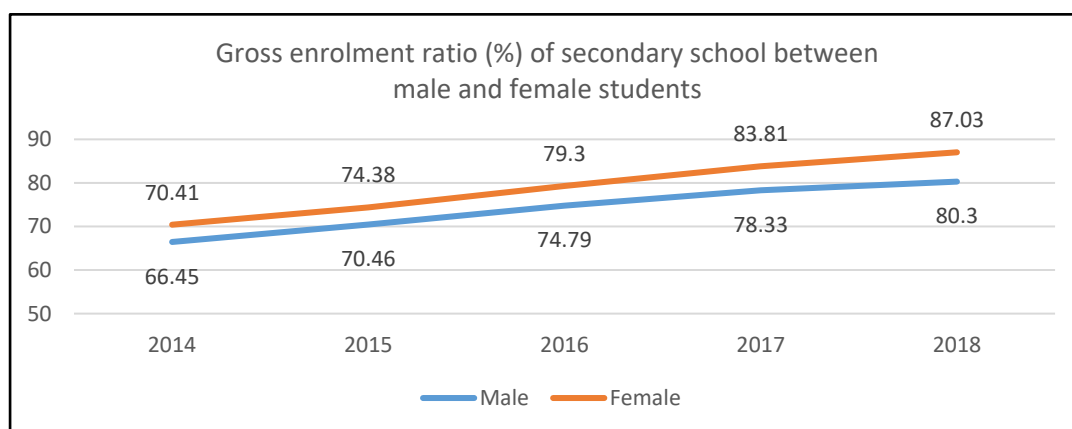
Figure 42: Timor-Leste gross enrolment ratio (%) of secondary school between female and male (Source: http://uis.unesco.org/en/country/tl)
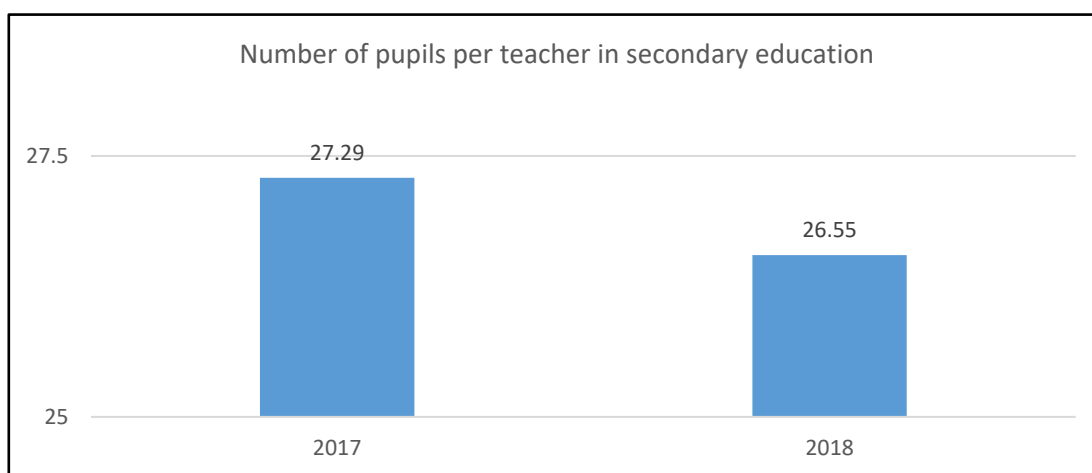
Figure 43: Timor-Leste number of pupils per teacher in secondary education (Source: http://uis.unesco.org/en/country/tl)

4.5.5   Literacy and Numeracy

Timor-Leste is a multilingual society and that literacy by language of Tetum, Portuguese and English is improving quite rapidly from year 2010 to 2015, for 5 years old children and above. There is a significant increased for Tetum from 53.4% to 62.5%, Portuguese from 23.6% to 30.8%, and English from 11.5% to 15.6%. Although Bahasa Indonesia is constant at 36%, it remains the second most used language next to Tetum (GDS, UNICEF & UNFPA (2017). Table 14 shows that in 2018, the literacy rate of female at the age of 15 to 24 years old indicates a higher percentage of 84.7% compared to male

children at 82.5%. As for population age of fifteen years and above, it shows the opposite whereby the male has a higher percentage of literacy of 71.9%, compared to female at 64.2%. Meanwhile, the illiterate population of the 15 to 24 years old indicates the female has a lower number of 20,705 compared to the male of 24,339. The population at 15 years old and above shows the opposite of which the female population shows a higher number of illiterates of 140,190 compared to male of 111,741.

Table 14: Percentage of literacy rate and illiterate population in Timor-Leste

	Total	Male	Female	Year
Literacy rate (%)				
15 to 24 years old	85.5	82.5	84.7	2018
15 years and above	68.1	71.9	64.2	2018
65 years and above	15.0	21.4	9.5	2018
Illiterate population (n)				
15 to 24 years old	45,044	24,339	20,705	2018
15 years old and above	251,931	111,741	140,190	2018

4.5.6   Timor-Leste Response to COVID-19 Pandemic

The COVID-19 pandemic has had a significant and destructive global effect. Deaths worldwide have reached one million, and in many countries, the rate of new infections is still increasing, while others are grappling with the economic effects of domestic containment measures and worldwide recession. Timor-Leste was not excluded from the symptoms of the disease. With a weak healthcare system, an uncertain political climate, and a high level of poverty, there was widespread fear in the early days that Asia's youngest democracy would be challenging to cope with the pandemic. When the first case of COVID-19 was confirmed in Timor-Leste, the government acted rapidly to contain the outbreak on 21 March 2020. They closed the land border with neighbouring Indonesia, set up a state of emergency, and conducted widespread public awareness campaigns. In this section, the response of Timor-Leste to COVID-19 pandemic by the Ministry of Education, Youth and Sports (MEYS) will be shared in six themes as below:

i)   Enrolment

Schools in Timor-Leste were closed for face-to-face learning from the end of March until June 2020. By the beginning of June, re-opening standards were in place, and schools began opening. However, not all schools reopened at the same time, as to re-open, a 7-point list of requirements was instated, which included such things as mandatory tests for teachers and school leaders about prevention of COVID-19, water for daily cleaning and hand washing, mask-wearing, etc. As some schools were not adequately prepared, they were certified for opening later than others. However, by August 2020, all schools were re-opened. In August 2020, the MEYS began collecting data regarding students' attendance (enrolment is not an issue as the school year runs from January until December, which means that enrolment was already done for the 2020 school year). Because of social distancing guidelines, many students have been receiving far fewer hours of schooling than before the pandemic. The MEYS has been administering guidelines to help teachers use less face-to-face time in a more efficient way, but the results have yet to be seen. Currently, the MEYS is compiling results to determine how much learning was lost during the pandemic and subsequent reduction of school hours necessitated by social distancing upon recommencement of face-to-face learning.

ii)   Curriculum delivery

Schools at all levels (from preschool until secondary) are facing different situations. Some classes are operating at normal hours, which means that curriculum delivery has been able to continue as normal. Others, however, have reduced hours, which could be at half hours, or in some schools with very large class sizes, even less. Schools have been given directives to move individual assignments done in class to homework, and in this way try to ensure that all content is covered both inside and outside of school walls. Teachers are encouraged to give students books to take home so that more reading can be done outside of school time, and the MEYS has also done a massive book distribution, as well as a recent procurement of more books to help this effort. Guidelines have also been set forth recommending for teachers to use alternative spaces within the school complex to allow the continuation of learning during school hours, more effectively using space during social distancing, and employing peer-to-peer support to enhance student learning. Small group and individual tutoring sessions have been promoted more vigorously, and this will continue with more specific guidelines and support in the 2021 school year.

The Ministry of Education, Youth and Sport (MEYS) and UNICEF initiated 'Eskola Ba Uma' or 'School Goes Home' to ensure children continued learning, encompasses television programmes, radio programmes, electronic books, online Learning Passport platform, and printed books for children who are not digitally connected. The Eskola Ba Uma has created a great opportunity for the future, ensuring that distance learning programmes will further improve the education system to reach all children. Moreover, the Eskola Ba Uma lays groundwork for the advancement of education in Timor-Leste, enabling MEYS to reach many of the children who had recently been left behind, such as children with disabilities. It could also offer a new way to reach out to pregnant girls and teenage mothers, out-of-school children, and children in remote rural areas. It is hoped that new content, learning platforms and resources would survive the emergency of COVID-19, opening the way for a more inclusive education system through ICT-based learning and alternative learning pathways. Main features of the Eskola Ba Uma programme provided by UNICEF are as Figure 44.

Act fast
Ready and responsive in offering operational and technical support to the MEYS' school-based campaign and the *Eskola Ba Uma* learning program developed within two weeks.

Seize a window of opportunity
Offered the MEYS an opportunity to create and innovate. UNICEF contributed innovative and technical expertise and support to launch and scale an online Learning Passport platform in partnership

Uphold an equity lens
Collaborated with the MEYS to identify gaps in access and connectivity and worked to ensure education continuity was expanded and supported across diverse learning channels such like TV, radio, Internet, SMS, phone applications and print materials for children,

Figure 44: Main features of *Escola Ba Uma*

iii)   Modification of curriculum

In general, the curriculum has not been modified, except with the following exceptions:
*   In classrooms with large class sizes that need to be divided by three or more groups (at all levels of schooling except for those students who take national exams), it has been recommended to concentrate on literacy and math subjects, potentially excluding other subjects but hopefully ensuring that basic skills continue to develop and improve.
*   For students subject to national exams, it is suggested to concentrate on the areas that are subject to national exams, to ensure that knowledge in the core subjects is developed.

Schools, in general, are autonomous, so apart from these guidelines were free to modify curriculum in other ways as their circumstances demanded.

iv)   Online resources

COVID-19, while devastating in many respects, also propelled the Ministry to expand its availability of online resources quickly. Through support from UNICEF, within a couple of weeks of the suspension of face-to-face learning, the Ministry had an online library created and a daily educational show airing on all major television channels and online through Facebook, YouTube and telecommunications company websites. MEYS was able to put online all digital resources, as well as some supplemental videos and audios, for most grade levels. The only exception was the third cycle of basic education (grades 7-9), as the Ministry does not have the rights to these books. In this case, summaries were quickly made for each subject in grades 7-9 and put on the digital library. A list of other relevant online resources was also distributed to all schools. Local telecommunication companies allowed free access and download of all Ministry materials until the end of the 2020 year. It should be noted that all materials produced by the MEYS are free and open-source, available to anyone, but not for sale or profit.

v)   educator competencies in an online platform

Most educators in Timor-Leste had no experience with using online platforms before COVID-19. Therefore, the Ministry, through its National Teacher Training Institute (INFORDEPE), created and implemented several online courses for teachers. Most of these courses were how-to videos – how to use Zoom, how to use the Learning Passport, how to use Google Classroom, etc., but also included a pilot online training on child development for preschool teachers. The most widespread use of online platforms for teacher training was the Ministry mandated COVID-19 course, which was a mandatory requirement for all educators in Timor-Leste to pass for their schools to be able to re-open.

This included all public, private, and international school personnel, and the course and test were offered in three languages. Mentors were deployed across the country to assist teachers in registering and taking the course. In the end, more than 17,000 people took and passed the course. It is hoped that this has started to sensitize educators to a future that will utilize online methods more substantially in teacher training, encompassing a wide range of teacher competencies. In general, while teachers were initially hesitant, they were very proud to have achieved a passing score from their online test, and particularly pleased that a certificate was generated automatically.

vi)   Assessment

Because of the time lost in school closures because of COVID-19, the MEYS delayed national exams for one month, giving students time to recuperate knowledge that was lost. It has been discussed that

these exams were not the basis for passing this 2020 school year, as this would create discrimination (some schools were able to open in June 2020, while others did not open until the end of August 2020, allowing some children more time to prepare than others). However, this has not yet been decided officially. National exams are currently being corrected; therefore, a reckoning of student success cannot be made until corrections are finished.

In addition to regular assessments, the MEYS also created assessments to measure how much learning has been lost at different levels of schooling. The assessments focus on literacy and numeracy competencies and are a composite of different tests. Those that may be administered directly by the teacher have been completed already in some schools, and the data is currently being compiled. This testing, along with more centrally administered assessments, should be completed by February of 2021, which will also help the MEYS to develop more specific remedial programs where needed. Accreditation was temporarily halted during the pandemic, as schools were closed. However, accreditation of schools continues now as usual.

4.5.7   Findings

Resulting from the inability to obtained survey result from Timor-Leste, an interview was executed with the personnel that are accountable for the Ministry of Education, Youth and Sports. Below are the key findings of issues related to Sector-Wide Policy and Plan:

Question 1: What are the challenges faced in Sector-Wide Policy and Plan in Timor-Leste?

Provision of school infrastructure remains one of the biggest challenges for MEYS to address. There are more than 1,500 existing classrooms that need to be refurbished and school WASH facilities that need to be installed, as well as making sure that schools get access to water. Besides, new classrooms also need to be built to ensure that all children can get access to quality standard learning facilities that would improve and ensure more participation in education, particularly preschool education which has a relatively low 25% enrollment rate. However, improving school infrastructure requires relatively significant financial resources as well as an effective multi-year planning cycle. It is therefore recommended that MEYS develop multi-year planning for addressing school infrastructures including school WASH facilities as well as used for mobilizing additional resources to address the issue.

Another challenge is strengthening evidence-based planning. Although the Government has made significant investment towards producing evidence-based planning and MEYS has established an EMIS system to support with the production of data and information, the data collected are insufficient, not up to date, unverified and inconsistent, which makes it hard to make precise stories of the education situation. For example, although there are data on enrollment rates (both GER and NER), schools and infrastructure facilities, however, there is less data on measuring the quality of learning in schools, children with special needs etc. Besides, various studies in education that have been commissioned by numerous entities have not been coordinated and shared with MEYS, nor easily accessed through the wider public domain.

Question 2: What are your recommendations and suggestions towards the improvement of Sector-Wide Policy and Plan in Timor-Leste?

Improving school infrastructure requires relatively significant financial resources as well as effective multi-year planning cycle. It is therefore recommended that MEYS develop a multi-year

planning cycle for addressing school infrastructure, including school WASH facilities, as well as used for mobilizing additional resources to address the issue. The Ministry's recently approved Education Sector Plan (ESP) identifies the evaluation of learning outcomes with appropriate standards and system as one of the strategies to address the issue of low educational quality. At the same time, MEYS should develop an adequate and affordable system that can help to collect information on learning outcomes. Hence, it is recommended that MEYS implement its recently developed ICT Policy strategy to help improve our EMIS system by promoting digitalization and school-based data collection. Besides, further investment in the MEYS planning department is warranted to implement numerous recommendations from various assessments carried out on EMIS.

5.0   CHALLENGES

This section discusses the challenges of the Five Cluster Countries to align their Sector-Wide Policy and Plan with the SDG4 goals. In assuring the realization of the policy and plan, the Five Cluster Countries confronted with numerous challenges that necessitate an understanding of various stakeholders. The challenges below summarize from assembled of content analysis, surveys, and the open-ended questions:

i)   Accessible and equitable to boys and girls

All the Five Cluster Countries provide equal access to education to all boys and girls. There is no discrimination and disparity of gender to get access to education, and all education policy of each country stated that the service of education is eligible to all children. Withal, there is some concern regarding the availability of school in certain localities, and some a bit far from the children's home. This becomes a challenge for the children to go to school and hinder their motivation to get access to education. Furthermore, school far from home is not safe for the children because of the need to travel. Requiring education is one of the reason family or children to travel to the capital city. Great efforts would be necessitated to bring high quality education to even the most remote places of the country.

Generally, rural areas perform far lower in a wide number of aspects, ranging from attendance to literacy to educational achievement. All the cluster countries show increasing trends in children enrolment during compulsory education. However, high enrolment does not reflect high attendance. Monitoring of students' attendance is crucial to ensure minimizing the learning loss, and to identify children who have problem to attend schooling. There are no issues about promoting girls to go to schools as it can be seen from the enrolment that some cluster countries have higher percentage of girls and survive at least at compulsory education. However, equal access to education among girls does not guarantee their survival and access in employment after they completed their compulsory education.

Nevertheless, the concern should be looked upon the accessibility of vulnerable children to school. Lack of awareness of the existence of diverse children who needs special care and protection to all kinds of discrimination. Most of the cluster countries stated about special education and inclusivity. Still, it needs to be made clear about the diversity of children's requirement to specific attention in terms of definitions. It must be made clear in the policy what type of children need what type of supervision to be accessible to education. There is education policy that is hazy about the treatment that should be given to out-of-school or dropout children. Some questions are raised, among them are: What initiatives should be implemented to ensure that these children have accessed

to education? What are the criteria of out-of-school children, and what age that needs to be taken into consideration?

ii)   Quality education

Two criteria of quality that require to be highlighted, i.e., the quality of care, and quality of the curriculum implementation. Children should be provided with adequate facilities for them to feel safe, being able to move freely without any obstacles, do not feel excluded and inclusive. To provide various kinds of facilities to accommodate all children's needs, necessitate immense funding. The prominent problem about children with special needs is to identify them at an early age. Issues of having them at later grades, complication to handle them in the school, the readiness of teacher and normal student for inclusivity, lack awareness of parents about their special needs and competences of teachers deal with them should be clarified through policy or initiatives.

Good facilities do not just have a clean place, electricity, and technology but the new obstacles are how to accustom school facilities for diverse learners. Having good nutrition is important for the children to grow but also giving them enough energy to be capable of receiving education. Malnutrition among children from the poor household could lead to dropout because some children need to get a job to survive and feel embarrassed because they are not as fortunate as any other kids. The challenge is to provide free nutritious meals for children in schools.

iii)   Free education for all

All the cluster countries state that compulsory education years is provided free to all children. The question is, how free is free? The definition of free to be made clear whether it is free or partially. It is because to be able to get an education, and a child must have all the schooling necessities. It includes books, uniforms, stationeries, shoes, tuition, transportation, learning materials, examination papers and food. The challenge is how to ensure that all children have at least basic schooling necessities. Fortunately, all sub-regional countries have initiatives to cater to the problem by providing children from poor households with funds and scholarships. However, do children or parents aware of these benefits and how many children have benefited from it?

iv)   Relevant to current needs.

Relevant refers to how current is the education and does it significantly with the children's future. From the survey, the respondent made aware that it is crucial to inculcate 21st-century skill, I.R 4.0, ICT and STEM. However, do the students realize the importance of it for their future? All sub-regional countries stated in their policy the curriculum include all the requirements to ensure the children have relevant skills to pursue career life. Programs to implement 21st-century skills, I.R 4.0, ICT and STEM require time and budget, and it is a challenge to promote teacher to hold such activities. Mismatch between education and labour force demand would diminish chances for school graduates to obtain a decent job.

Teachers argue that they do not have much time to enforce project with the students because they need to ensure the completion of the syllabus. Instead, they need to focus on the preparation of students for the standardized test or examination. Relying heavily on examination-orientation will lead to rote learning and hinder a deeper understanding of knowledge. Yet, a standardized test is also important to assess the achievement of a policy and the effectiveness of education. The challenge is how to balance the need for a student-centred approach and national examination.

v)   Effective education for all.

Effective teachers bring effective teaching. To ensure that teacher is effective, they need to have some qualification in education to teach the children. From the findings, in some cluster countries, the number of qualified teachers is low, especially in the preschools. To deliver quality education, an educator must have pedagogical knowledge and mastering children's psychology. It has been a challenge to provide the teacher with a qualification in some cluster countries because of the funding and to attract more people to become a teacher. It is an immense challenge to some cluster countries to increase the supply of qualified teacher and initiatives to upgrade the existing unqualified and underqualified teachers.

Most people are not interested in being a teacher, especially a preschool teacher. However, the criteria of teacher qualification are stated in all policy documents of the Five Cluster Countries. The adequacy of a teacher has been a long-time issue. Most cluster countries have pupils per teacher ratio below than the world average, and it indicates that the number of teachers is sufficient. Yet, from the findings, most of the countries declared a concern of the insufficient teacher. The urban locality has a higher population and schools become cramp. As for the rural area, the lack of teachers is due to the unwillingness to educate in a remote area.

Hindrance to guarantee that the supply of teachers is sufficient should be overcome. Also, the challenge to encourage teachers to educate in the remote area. Most teachers felt that the inadequacy of support from the authorities in terms of facilities and welfare. However, frequent monitoring from the authorities caused the school to be intense. Concern also reflected in the insufficient monitoring agencies and understaffed. Parents and caregivers barely involved in their children education, notably in preschools. Most parents treat preschool as a daycare, not an educational institution. Monitoring agencies or authorities play a crucial role in assuring that the education policy and plan implemented thoroughly. Weak governance at central, municipal, or school levels will impede the attainment of education goals.

vi)   Literacy and numeracy

The Five Cluster Countries have literacy rate higher than the world average, and the number of illiterate populations is low. There are some issues regarding the curriculum in primary education, where it is said as too advance. Some children still cannot read when they enter primary school. The implementation of bilingual in primary level giving a hard time for the children from the preschools to adapt. Also, concern on the students of primary schools that progress to the secondary level who have yet to master literacy and numeracy. The adaption to the transition of mediation from mother tongue to English or both at the same time allowing confusion among children. Children who have a problem in mastering language would be left behind from the advance students. Withal, the performance in the international assessment among cluster countries, particularly PISA is below average. Students still score below average in reading, science, and mathematics. Although the literacy rate is high in the Five Cluster Countries, they do not score high points in reading. The challenge is how to guarantee that the children understand what they read and think critically. What are the root causes that the students do not score higher than OECD average in science and mathematics?

6.0   RECOMMENDATIONS

In offering education in pre-primary, primary and secondary education that is accessible, equal, free, relevant, quality and effective, there are recommendations as follows.

i.   It is important to ensure that children are safe when they are going to school. The location of the school should be near to their homes. Preparing transportation to the children will elevate the motivation to go to school and protected. Parents and caregivers do not have to worry about their children's safety. To provide boarding schools for the children from the poor household so that they do not have to travel daily and supported with hostels and meals. To achieve equitable educational opportunities between rural and urban areas and between the various municipalities in the country, proper funding in school infrastructure and a high-quality workforce would have to be made in more remote areas.

ii.   Awareness on the children at risk such as immigrant, refugee, out-of-school, children living with HIV or with disabilities, needs to be addressed. These children in special attention and acceptance. Initiatives to support them to be inclusive in school should realize by collaboration with NGOs and associations related to them. Efforts to identify special needs students at an early age will expedite the preparation of the school community in accepting them. Great attention also needs to be taken into consideration on young female workers, teenage mothers and young urban migrants due to low school attendance, educational attainment and out-of-school among them.

iii.   All teachers should be trained in inclusive education. Pre-service teachers should be exposed to the diverse learner in their teacher training, and professional development program for the in-service teacher on inclusive education should be encouraged. Students also need to be educated in accepting and respecting people with special needs. Parents and caregivers should be aware of the need of their special need's children. Moreover, parents are the most important influence in early childhood development, and parenting programmes integrated with early childhood education have proved to be most successful.

iv.   There is a need to re-align education initiatives and programs for out-of-school and dropout children. If the school is not suitable for out-of-school and dropouts, and alternative should be implemented to provide them with relevant skills and knowledge in a different environment. Night or weekend classes should be made available as some children may be working during the day.

v.   School facilities need to be upgraded in terms of safety, inclusivity, and disability friendly. Model school should be established in terms of serving special needs children that can be an example for other school to initiate inclusivity. Furthermore, to ensure equality and diminished gap between urban and rural children is to upgrade ICT facilities in rural areas to ease online learning. Also assisting marginalized children in urban and rural locality to benefit from ICT facilities.

vi.   Malnutrition among children leads to inadequacy of focus in learning and dropping out due to the children need to work to get money and to help their family. Policy on free nutritious meals should be enforced and to a wider receiver. Having a free meal motivate children to school, to gain energy to learn and embracing equality.

vii.   Policy on free education need to be clear in terms of what is given free. Although stated free in the policy, there are still children who cannot afford to go to school. Free education should be extended to schooling necessities such as books, uniforms, shoes, transportation, etc. Awareness of scholarships and funding to low-income family and to be expanded to less fortunate children.

viii.   Empowerment of teacher through training and autonomy to implement more exciting learning activities with the inculcation of 21st-century skills, I.R 4.0, ICT and STEM. Such action needs sufficient funding and understanding from the school administrator the importance of current approach because it requires time and budget.

ix.   The workload of the teacher in handling non-teaching task and administrative work causes them to be ineffective. The focus should be given to the teaching task. The use of technology can ease documentation job such as attendance taking and reporting progress to parents online and providing teacher's assistant post in all level of education notably in pre-primary education.

x.   Heavy emphasis in the standardized testing cause learning experience to be dull, repetitive drilling and rote learning. This can be seen in the performance of the student in PISA, where students were not able to think critically enough. Learning should be student-centred and embracing activities such as problem-solving and project-based. Methods in assessing children need to be diversified in the form of formative and summative assessment. However, appropriate literacy and numeracy timely assessments in schools will provide a clearer picture of the quality and effectiveness of the education system in teaching children to read and write.

xi.   Professionalization and qualification of teacher needs to be upgraded, and as an educator, the necessity to have pedagogical knowledge, technology, and mastering children's psychology. Expanding effort in promoting youth to be a teacher, especially in preschool and in the remote area. Higher salary and incentive might attract more youths to be interested in the education field.

xii.   Insufficient teachers in both urban and rural area indicated by the number of pupils per teacher. Recruiting more teacher is the best solution in high-density school. Thus, the teacher will have a smaller number of class, and more emphasis on each student. Emphasis should be given to the number of preschool teachers because younger kids need more monitoring.

xiii.   Intensify educational research through cooperation with higher education and international agencies to gather data, analyze and share admissible findings to improve existing and ongoing policies. Promotion on publishing open index journals on educational research from 5 cluster countries in sharing challenges, recommendations, and unique findings.

7.0 CONCLUSION

The sustainable development goal on Education 2030 SDG4 Agenda focuses heavily on data collection and monitoring for the efficient and successful management of the education sector. The aim is highly comprehensive and supports the lifelong learning approach, which calls for improvement in education for all ages at all levels of education. This needs consistent metrics and measures to create international discourses and advocacy based on facts. Moreover, SDG4-Education 2030, regardless of their level of growth, reflects a common and inclusive pledge by all nations. The collective in this chapter demonstrates the importance of each nation's achievement in implementing a systematic and detailed policy and plan without leaving anyone behind and harmonizing their education policy and plans with the objective of the SDG4. Impressively, some of the national policy and plan indicates most of the goal of SDG4 before the Education 2030 Agenda was proposed.

Brunei Darussalam, Indonesia, Malaysia, Philippines, and Timor-Leste provide free education for all children boys and girls during the compulsory education period and shows a significant increase in children enrolment in pre-primary, primary and secondary education. Immense efforts displayed by each nation in coordinating the education policy to be relevant to the 21st-century demand and inclusive education. Monitoring and the keep track of the implemented plan executed by assigned ministries and department to ensure in providing quality and effective education, also through substantial partnerships between public and private sectors. Extensive pinpoint on in eliminating gender disparity and inclusivity, throughout all level of education is given into account in all nations education policy and plan to affirm gender equality, accessibility and affordability and soaring participation between male and female in education. Significant resolutions to boost and strengthen literacy and numeracy initiated throughout formal and non-formal education by each country can be noticed in the achievement of nations in the international assessment such as PISA and national assessment. Despite vigorous pursuit in realizing education policy and plan, there are challenges faced along the way, for instance, managing administration and human resources in macro and micro level, ensuring no one left behind amid the implementation of initiatives and support in all stages of community.

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Republic Act (RA) No.10533 (Enhanced Basic Education ACT 2013) adding 2 years to Senior High School to broaden the goal of high school education to strengthen the preparation to college, vocational and technical career opportunities as well as creative arts, sports and entrepreneurial employment.

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QUESTIONNAIRE ON ALIGNMENT OF NATIONAL POLICY WITH SDG 4 (SECTOR-WIDE POLICY AND PLAN)

PURPOSE AND MAIN DEFINITIONS

The purpose of this questionnaire is to gather information about countries' existing and ongoing policies and its alignment with the United Nations' Sustainable Development Goal (SDG) 4. The information collected in this questionnaire will be used to develop a policy review on 5 cluster countries to observe commonalities and uniqueness between countries and recommendations for nations to keep track and learn from each other.

UNESCO, Jakarta office as the Cluster Office to Brunei Darussalam, Indonesia, Malaysia, the Philippines and Timor-Leste has been supporting the Member States to achieve Sustainable Development Goal 4 to promote Quality Education through 2020-2021 Regular Programs in five education areas;
  i)   Sector-wide Policies and Plan;
  ii)   Technical Vocational and Education Training (TVET);
  iii)   Teacher Policy and Plan;
  iv)   Education for Sustainable Development (ESD);
  v)   Inclusive Education.

Sustainable Development Goal 4

TARGET 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.

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

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

TARGET 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.

TARGET 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.

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

TARGET 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 non-violence, global citizenship and appreciation of cultural diversity and culture's contribution to sustainable development.

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

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

TARGET 4c: 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 islands developing States.

INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

Please read these instructions carefully. If there are any uncertain definitions of key terms, the participant may refer to the glossary and description of the five areas. Please provide information about the participant that completed this questionnaire. Please answer ALL questions and provide comprehensive comments for the open-ended question as required. If you have any queries on how to answer this questionnaire, please do not hesitate to contact UNESCO, Jakarta Office.

CONTACT information

UNESCO Jakarta

Please provide information on the authoritative person to complete this questionnaire.

The person completing this questionnaire should be an official representative of the Ministry of Education or corresponding institution in the country. The person should be well-informed of the country's participation at least in ONE of the five areas.

1. **Country**
    Brunei Darussalam   [   ]
    Indonesia   [   ]
    Malaysia   [   ]
    Philippines   [   ]
    Timor-Leste   [   ]

2. **Gender**
    Male   [   ]
    Female   [   ]

3. **Age** : ……………………………..(years)

4. **Education Level**
    Diploma   [   ]
    Bachelor's Degree   [   ]
    Master's Degree   [   ]
    Ph.D   [   ]

5. **Ministry / Department / Division / Institution / Schools:**

    …………………………………………………………………………………………….

6. **Year of experience in the education field**
    Less than 5 years   [   ]
    6 to 10 years   [   ]
    More the 10 years   [   ]

7. **Expertise**
    Technical, Vocational and Education Training (TVET)   [   ]
    Teacher Policy and Plan   [   ]
    Education for Sustainable Development (ESD)   [   ]
    Inclusive Education   [   ]
    Early Childhood Education   [   ]
    Primary Education   [   ]
    Secondary Education   [   ]
    Others: Please specify: _____

7. **Email:** ……………………………………………………………………………………….

Instructions for completing the survey

This questionnaire covers the Sustainable Development Goal 4 Targets regarding **primary/secondary education** and its relation to your country. Please tick (✓) based on **your professional opinion** upon each statement referring to the level of the agreement indicates as below:

1	:	Strongly Disagree
2	:	Disagree
3	:	Agree
4	:	Strongly Agree
0	:	Undecided / Unsure

In my opinion:

No.	Statement	Level of Agreement				
		1	2	3	4	0
1	Education is free in primary/secondary level					
2	Education accessible to boy and girl in primary/secondary level					
3	Number of primary/secondary schools is enough					
4	All children can afford primary/secondary education					
5	Primary/secondary Schools are reachable					
6	Primary/secondary Schools are available at each district					
7	Initiatives executed to promote girl to participate in primary/secondary education					
8	Initiatives executed to keep children in schools by scholarships					
9	The primary/secondary curriculum is suitable for all (at all level and age)					
10	Initiatives executed for out-of-school children at primary/secondary					
11	Talent is embraced by specific programs (sport, arts, gifted)					
12	Intervention executed for children at risk (immigrant/refugee/out-of-school/CLHIV/disabilities)					
13	Number of teachers in primary/secondary schools is enough					
14	Monitoring agencies/authorities play an effective role in ensuring the quality of primary/secondary education					

No.	Statement	Level of Agreement				
		1	2	3	4	0
15	Number of drop-outs in primary/secondary level is high					
16	The primary/secondary curriculum is relevant in the 21st century					
17	The primary/secondary curriculum aligned with IR 4.0					
18	Students equipped with relevant skills					
19	Emphasis is given on STEM programs					
20	Emphasis is given on ICT programs					
21	Emphasis is given on character building					
22	Students are assessed holistically (academic and non-academic)					
23	Government spend ample expenditure on education					
24	Facilities for education is sufficient					
25	Student performed well in academic					
26	Student performed well in non-academic					
27	Majority of students achieved a minimum requirement in assessment standards.					
28	Majority of boys can read					
29	Majority of girls can read					
30	Initiatives executed to improve literacy in boys and girls					
31	Initiatives executed to improve literacy in adults					
32	Programs related to the improvement of literacy in primary/secondary education is effective.					
33	Majority of boys can count					
34	Majority of girls can count					
35	Initiatives executed to improve numeracy in boys and girls					

No.	Statement	Level of Agreement				
		1	2	3	4	0
36	Initiatives executed to improve numeracy in adults					
37	Initiatives executed to improve numeracy in boys and girls					
38	Initiatives executed to improve numeracy in men and women					
39	Programs related to the improvement of numeracy in primary/secondary education is effective.					
40	Education facilities is sensitive to children (suitable)					
41	Education facilities is sensitive to children with disabilities.					
42	Education facilities is sensitive to gender.					
43	Education facilities is safe.					
44	Education environment is non-violent.					
45	Education environment is inclusive.					
46	Education facilities promote effective learning.					
47	Education facilities is upgraded from time to time.					
48	Education facilities is adequate.					
49	Education facilities is relevant to current education needs.					
50	Free meals are provided					

In addition to the above survey items, we also welcome other views regarding **primary/secondary education** in your country. Please write down your views and suggestions to the following open ended questions:

1.   What are the challenges faced in primary/secondary education in your country?

_____

_____

2.	What are your recommendations and suggestions towards the improvement of primary/secondary education in your country?

_____

_____

_____

_____

3.	How does your country respond to the impact of COVID-19 pandemic on primary/secondary education (e.g. curriculum delivery, modification of curriculum, online resources, educator competencies in online platform, assessment, accreditation)?

_____

_____

_____

_____

_____

❀❀❀❀❀THANK YOU VERY MUCH FOR YOUR COOPERATION❀❀❀❀❀

APPENDIX B   Interview questions

1.   What are the challenges faced in (5 thematic areas) in your country?

2.   What are your recommendations and suggestions towards the improvement of (5 thematic areas) in your country?

3.   How does your country respond to the impact during and beyond of COVID-19 pandemic on (5 thematic areas) (e.g. enrollment, curriculum delivery, modification of curriculum, online resources, educator competencies in online platform, assessment, accreditation)?

4.   Probing questions
   - marginalized students/rural/remote/refugee/CLHIV/out-of-school
   - equality/accessibility/quality/inclusivity
   - financial/budget (between ministry/ private/NGO)
   - resources/learning materials/food (between ministry/ private/NGO)
   - infrastructure/IT/internet/gadgets/electricity/water
   - policy guidelines for COVID (participation/attendance/monitoring of T&L/overcoming learning loss/promotion to grades/admission to higher education (selection)/practical learning)
   - technical, social & emotional support for school community