Technical Assistance Consultant's Report

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Republic of the Union of Myanmar: Support for Post-Primary Education Development
(Cofinanced by the Government of Australia)

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For the Ministry of Education

Asian Development Bank

Myanmar Comprehensive Education Sector Review (CESR)

Phase 2: In-Depth Analysis

TECHNICAL ANNEX ON

SECONDARY EDUCATION CURRICULUM, TEXTBOOKS, AND LEARNER ASSESSMENT

FINAL VERSION, 14 October 2014

(Minor refinements from 16 February 2014 Draft)

Foreword

This report was prepared as part of the In-Depth Analysis (Phase 2) of Myanmar's Comprehensive Education Sector Review (CESR), which is led by the Union of Myanmar Ministry of Education (MOE), coordinating inputs from other government agencies and support from an array of development partners. The report serves as a Technical Annex to the compilation "Volume 2" for CESR Phase 2. Under the umbrella of the CESR, the analysis reported herein was principally supported by two Asian Development Bank (ADB) technical assistance projects (TA 8187-MYA: Support for Education Sector Planning and TA 8385-MYA: Support for Post-Primary Education Development) - both of which are co-financed by the Government of Australia (represented by Australian Aid) – and incorporates additional inputs by ADB staff.

This report expands on the findings and recommendations of the CESR Phase 1 Rapid Assessment – including those reported in the CESR Phase 1 Technical Annex on the Secondary Education Subsector[1] - and presents an in-depth analysis of Myanmar's secondary education curriculum, textbooks, and learner assessment. The findings and recommendations are based on stakeholder consultation, a teacher survey for curriculum evaluation, a series of curriculum review workshops with the DEPT Curriculum Development Team (CDT), and further analysis of available data and information from MOE and DEPT Curriculum Development Team.

While the report was principally drafted by TA 8187 and TA 8385 consultants Marion Young, Daw Ei Phyu, Daw Khin Than Nwe Soe and Daw Shwe Zin Aung, it reflects a collaborative effort involving inputs from the CESR Team throughout the process (including in particular Daw Tin Tin Shu, Dr Myint Thein, Daw Khin Thin Phyu, Daw Gin Lan Kyein, Daw Khin Htike San and Daw Myat Myat Khine) as well as members of the MOE Department of Planning and Training Curriculum Development Team (secondary). The report is also guided by advice from ADB staff Chris Spohr.

The report also reflects discussions with other ADB-mobilized consultants supporting CESR Phases 1 and 2 (in alphabetical order, Nigel Billany, Carsten Huttemeier and Marcus Powell). It also benefited significantly from dialogue with counterparts from Australian Aid and UNICEF (which are supporting overall CESR coordination), as well as other development partners supporting the CESR including GIZ, JICA, and UNESCO. Guidance and support from CESR international advisors (Julian Watson, Eric Woods and Peter Mogensen) is also greatly appreciated.

[1] See http://www.adb.org/projects/documents/cesr-p1-rapid-assessment-annex-secondary-education- tacr

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ABBREVIATIONS

ADB	Asian Development Bank
AY	Academic Year (in Myanmar context : June-April)
BEHS	Basic Education High School
BEMS	Basic Education Middle School
BEPPS	Basic Education Post Primary School
BEPS	Basic Education Primary School
CAP	Continuous Assessment and Progression
CCA	Child Centered Approach
CDT	Curriculum Development Team, DEPT, Ministry of Education
CESR	Comprehensive Education Sector Review
CFS	Child Friendly Schools
CPD	Continuous Professional Development
DBE	Department of Basic Education
DEPT	Department of Education, Planning and Training
DHE	Department of Higher Education
EC	Education College
EMIS	Education Management Information System
EAP	English for Academic Purposes
EOP	English for Occupational Purposes
EPP	English for Professional Purposes
ESP	English for Specific Purposes
EStP	English for Study Purposes
GTI	General Technical Institute
GTHS	General Technical High School
HE	Higher Education
HS	High School
IOE	Institute of Education
JAT	Junior Assistant Teacher
MOE	Ministry of Education
MORA	Ministry of Religious Affairs
MS	Middle School
NSSA	National Skills Standards Authority

PPE Post Primary Education

PS Primary School

SAT Senior Assistant Teacher

SE Secondary Education

SEIA Secondary Education in Africa

SES Secondary Education Sector

TEO Township Education Office

TVET Technical and vocational education and training

UDNR University of Development of National Races

EXECUTIVE SUMMARY

1. The Myanmar CESR Phase 2 In-Depth Analysis of Secondary Curriculum, Textbooks and Learner Assessment (May to December 2013) provides further evidence on the issues and recommendations identified in CESR Phase1. This review, supported by ADB/Australian Aid, focuses specifically on secondary curriculum, textbooks and learner assessment. A CESR Phase 2 review of the primary curriculum is being conducted with JICA support and a review of learner assessment and examinations is being supported by British Council.

2. There was recognition in Phase 1 that curriculum reform will be foundational in ensuring that secondary school graduates are well prepared to face the challenges and opportunities of the rapidly changing social and economic environment in Myanmar. English as the language of instruction for Grade 11 Mathematics, Physics, Chemistry and Biology was raised as a specific concern because neither students nor teachers have sufficient competency in English. The Phase 1 report also acknowledged that the present assessment and examination system in secondary schools encourages rote learning, cramming and short term memorization of facts rather than developing higher order skills such as critical thinking.

3. The key issues for secondary curriculum, textbooks and learner assessment identified in CESR Phase 1 were the need for a review of the curriculum framework to ensure horizontal and vertical content and competency linkages:

(i) to improve quality, reduce overload, remove overlap and gaps in content coverage and ensure continuity in the current curriculum, pedagogy and learning assessment,

(ii) to align with the planned restructuring of school grades,

(iii) to meet the needs of a technology-based society facing rapid socio-economic development, and

(iv) to align the Myanmar curriculum to the ASEAN regional standard.

4. It was also reported in CESR Phase 1 that adjustment of pre-service and in-service teacher training, and an in-depth review of continuous and summative assessment would be needed alongside the review and revision of textbooks. Sufficient time would need to be built into the curriculum planning process to allow for textbook writing, editing, layout, design and illustration, printing and distribution to schools. Sufficient time and resources would also be needed to provide capacity development of curriculum developers and implementers in schools and teacher education institutions.

5. **Curriculum Reform Timeframe** A six year timeframe has been mapped out for development and implementation of the new curriculum, pedagogy and assessment system on a phased cohort basis starting with KG introduction into schools in 2014/15 or 2015/16 (to be confirmed) with completion of grade 5, grade 9 and grade 12 introduction in schools by 2019/20 or 2020/21 (Annex 5).

6. **Curriculum Survey** A survey was conducted in Phase 2 (Oct-Nov 2013) in parallel with the secondary education survey to gather information on teachers' perception of the present grade 6-11 curriculum for all subjects. This will provide further evidence relating to the in-depth curriculum review including teacher's perspectives on contents, teaching and learning aids and materials, pedagogy, assessment and English as the language of instruction. The survey will gather information from a total representative sample of 612 middle and high schools across all regions and states.

7. **Curriculum Framework** At present there is no curriculum framework for general education in Myanmar. One of the key recommendations in the CESR Phase 1 report is the development of a curriculum framework that includes policies related to curriculum, syllabus, textbooks, rationale, goals, aims, principles, standards, assessment and CPR. A draft Curriculum

Framework is being prepared by the CESR primary and secondary curriculum teams in coordination and collaboration with the DEPT CDT.

8. **Curriculum Review** The CESR secondary curriculum team and the DEPT CDT team have conducted an in-depth analysis of all subjects and all grades 6-11 textbooks and teachers manuals. A review matrix was used that could be used in future curriculum review cycles (Annex 4). The review process identified the current curriculum content outline, the areas of overload, outdated content and gaps in content. The team then considered their outline recommendations for new content, new pedagogy and new assessment approaches.

9. **Curriculum review of overload and outdated content** was used in a curriculum review exercise conducted by MOE in October and November 2013 to prepare new textbook manuscripts for SY 2014/15. A more in-depth phased revision of the textbooks and teachers guides will be undertaken over a 6 year period (as described in para. 6 above and Annex 5).

10. **English as the Language of Instruction**: In the Phase 2 in-depth analysis the views of stakeholders was sought on the use of English as the language of instruction in high school, which aligns with English as the language of instruction in higher education. There was no consensus on this topic with valid reasons and logical arguments given both for and against. A technical report from the CESR English Language team provides further in-depth analysis to complement the analysis from the CESR secondary curriculum team in this report. Revision of the secondary school curriculum will be made based on the final high level decision on language of instruction for high school grades and for school leaving examination.

11. **Pre-vocational school curriculum**[2]: The new secondary school curriculum will have to take into consideration alignment to Myanmar's emerging socio-economic context, including future labour market demand for skills and identification of alternative pathways for an increasing number of students to progress from middle school into TVET & higher education. Curriculum alignment needs to be strengthened between middle school, high school and general technical high school. The vocational curriculum and basic education curriculum should be a foundation for higher education, TVET and aligned with workplace skills and labour market needs.

12. **Review of secondary school assessment and examinations** There is strong support from all stakeholder groups for reform to the secondary school assessment and examination system. There is an acknowledgement that the current assessment system is driving the widespread use of memorisation and that this prevents the development of higher level thinking skills and student centred approaches to teaching and learning. This in turn fuels the widespread use of private tuition especially by high school students. A discussion paper on Assessment and Examination Reform will also be included as a Supplementary Annex to this report (early 2014). The CESR Phase 2 secondary curriculum team worked closely with the CESR Phase 2 assessment and examinations expert to review and propose options for reform of the assessment and examinations system. The findings and recommendations in this report should be read in parallel with the findings and recommendations presented by the

[2] Note that, unless otherwise noted, “pre-vocational curriculum” is used herein to refer to elements to be included in general secondary education curriculum to enhance relevance and give foundational preparations for the world of work eg. teaching financial and economic literacy within the mathematics curriculum. This is distinct from the concept of pre-vocational schools.

assessment and examinations expert as there are some complementary and alternative options presented for consideration.

13. **Capacity development:** Curriculum developers, head teachers, teachers, teacher educators, assessment and examination experts, and others, will need on-the-job training to develop their capacity to be able to support implementation of the secondary school curriculum reforms. The challenge will be in the capacity of the system to develop and produce the school resources and in providing teams of trainers able to develop and conduct the in-service and CPD programs to the scale that will be required. On-going and sustained school-based support will be needed for effective and successful implementation of the new curriculum, pedagogy and assessment approaches. One-off training and upgrade workshops are not sufficient to give teachers the confidence that is needed to bring about real change in the classroom.

14. **Quality Assurance** At present there is no quality assurance procedure operational in secondary schools to measure and monitor the quality and effectiveness of the curriculum in improving student learning outcomes. Quality standards and quality assurance mechanisms need to be strengthened in secondary education including establishment of common core standards and procedures for performance monitoring.

15. A summary of the recommendations and a proposed outline timeframe for implementation of the recommendations is given in Annex 1a and Annex 1b.

1. CURRICULUM, TEXTBOOKS AND LEARNER ASSESSMENT PROCESS

16. The CESR Phase 1 Rapid Assessment of Secondary Education identified the following areas for further in-depth analysis in Phase 2:

Secondary School Curriculum

(i) In-depth review of the Grade 6-11 curriculum including pedagogy, and student assessment and examinations

(ii) Capacity development implications for implementation of curriculum reforms

Assessment and Examinations

(iii) A review of methods of assessment (continuous assessment, school leaving exam, matriculation exam and university entrance exam) to inform the process of reform of the secondary school assessment system in Myanmar.

(iv) Further in-depth analysis of the Matriculation Examination system.

(v) Drafting of an Assessment and Examinations Options Paper comparing international models of best practice.

(vi) Review the use of CAP for diagnosis and differentiation of individual learner achievement.

17. Section 1.1 provides an overview of policy as it relates to secondary education curriculum, textbooks and learning assessment. Analysis of the implications of restructuring secondary education on the Grade 6-12 curriculum is discussed in section 1.1.1 and the draft Curriculum Framework is outlined in section 1.1.2 with detail of the draft structure provided in Annex 2. A summary of assessment and examinations is given in section 1.1.3 with more detailed findings and recommendations presented in section 1.4. Section 1.2 provides some baseline indicators relating to the secondary education curriculum. In section 1.3 some relevant international comparisons are presented with details and references provided in Annex 8-10. The Phase 2 findings and recommendations for Phase 3 are provided in section 1.4.

18. Key topics reviewed in this report and requiring further on-going discussion include:

(i) Curriculum Framework

(ii) Curriculum structure (learning areas and teaching hours)

(iii) Language of Instruction

(iv) Child centred learning (CCA)

(v) Balance and focus of vocational skills and academic subject content in the secondary school curriculum

(vi) Assessment and Examinations including competency-based learning and reform of school leaving examinations (matriculation)

1.1 POLICY (MISSION AND VISION FOR DEVELOPMENT OF THE CURRICULUM, TEXTBOOKS AND LEARNING ASSESSMENT)

1.1.1 Implications of Restructuring Secondary Education on the Grade 6-12 curriculum

19. The restructuring of education from 5-4-2 to KG-5-4-3 provides an opportunity to review and revise the secondary school curriculum, including adjustment for the upward shift in student age and subject content with the addition of KG in primary level, and the addition of G12 in high school. Description of the wider range of issues relating to restructuring of the education

system is detailed in the SES report (CESR Phase 2 SES Report), including some initial consideration of implications for the curriculum reform.

20. Some of the key issues to be addressed through the secondary school curriculum reform are:

- To improve the learning outcomes of the majority of secondary school age children including a curriculum and records of achievement that will motivate primary graduates to continue and complete their education in middle school;
- To ensure horizontal and vertical alignment with the revised primary curriculum including KG and G1-5 and alignment with the post-secondary TVET and Higher Education curriculum;
- To update the curriculum to include 21st century skills relevant to Myanmar students graduating from G9 and G12 in the 2020s and beyond;
- To reform the assessment and examination system to focus more strongly on (i) formative assessment of course work, (ii) assessment approaches that differentiate and make appropriate provision for students across the range of abilities, and (iii) assessment that measures higher order thinking skills and competencies.

21. The in-depth curriculum review that is currently in progress in CESR Phase 2 is reported in Section 1.4.

1.1.2 Curriculum Framework

22. It is widely acknowledged by curriculum professionals who have been working with the CESR secondary curriculum team that the first requirement for curriculum reform is to develop a curriculum framework for endorsement by the Ministry of Education. At present there is no Curriculum Framework for Myanmar basic education.

23. The CESR Phase 1 report recommends: (i) development of a curriculum framework that includes policies related to curriculum, syllabus, textbooks, rationale, goals, aims, principles, standards, assessment and CPR; (ii) Encompass all aspects mentioned above while redefining curriculum. Against each of the Phase 1 recommendations, Table 1 below indicates the in-depth analysis that has been undertaken in Phase 2 and the components that need to be incorporated into the Phase 3 CESP.

24. The Curriculum Framework will provide the foundation for revision of (i) the curriculum content and teaching materials, (ii) description of the pedagogy that will enable child centred approaches to be put into practice in all classrooms, and (iii) outline of the methodology to be used for assessment and examinations. The curriculum framework will also provide the overall structure and process for curriculum implementation and quality assurance at the school level and for curriculum reform in the teacher training institutions. Details of CESR Phase 2 progress with drafting of the Curriculum Framework are provided in Section 1.4.2 and the current draft of the Curriculum Framework is presented in Annex 2.

Table 1 CESR Phase 1 Secondary Curriculum Framework Recommendations aligned to CESR Phase 2 in-depth analysis and CESR Phase 3 CESP

CESR Phase 1 Recommendation	CESR Phase 2 In-Depth Analysis	CESR Phase 3 CESP
Develop a curriculum framework : including curriculum policy, syllabus, textbooks, rationale, goals, aims,	International and regional comparison and review of curriculum frameworks. CESR/CDT drafted aims, principles and subject structure that should be incorporated in the Curriculum	Finalisation of CF Endorsement of Curriculum Framework Strategy and implementation

CESR Phase 1 Recommendation	CESR Phase 2 In-Depth Analysis	CESR Phase 3 CESP
principles, standards, assessment and CPR.	Framework. Draft proposal to introduce Grade 12 curriculum	plan for the CF (2014)
Redefine curriculum based on the *Curriculum Framework*.	Draft structure for the new G6-12 curriculum is under discussion with curriculum team and expert panel. Differentiate between national and school curriculum including local curriculum and vocational skills development.	Continuing TA to support TB/TG revision (2014-20) Capacity development for curriculum writers, etc Definition of new curriculum topics/skills
Strengthen strategies for curriculum reform : *a standardised survey format*, using the results from the standardised survey in curriculum reform.	Teachers' perceptions and recommendations on objectives, contents, pedagogy, teaching and learning materials, and assessment gathered from the curriculum survey Curriculum review matrix used to identify outdated, overload and gaps, and suggestions for improvement of content, pedagogy and assessment methods	Policy instruction and matrix used for regular curriculum review cycle (3-5 yrs) Follow-up survey or research on the new curriculum reform Strengthened QA to monitor curriculum performance
Conduct a longitudinal and vertical analysis of the Basic Education curriculum during CESR Phase 2	A comprehensive review and revision of G6-11 curriculum (TB/TG) and drafting of new curriculum content - completed	Conduct the regular analysis and evaluation of the curriculum (compare with other countries, e.g. every 5-8 years)
Update and revise *curriculum content* to become Competency Based Curriculum.	Review of teachers and CDT subject specialists' ideas and recommendations on the contents to be used in new curriculum. Review of definitions of Competency Based Curriculum to include in CF.	TA support and capacity development of competency based curriculum content in textbooks, teachers' manuals, teacher training programs, and student assessment
Accurately define "*all-around*." (Clause 28(d), Section 1, 2008 Constitution) "intellectual, physical, social, moral, emotional and aesthetic development"	Four Pillars of Learning and learning objectives defined for each grade and subject Consideration of special provisions, (e.g. multi-grade teaching and remedial teaching for students with learning difficulties	QA system to include performance monitoring of learning outcomes to ensure that the aims and goals are equitable and inclusive of all children. Capacity development for teachers on inclusive education.
Revise textbooks to align with a child-centred approach	Suggestions for improved teaching methodologies included in G6-11 TB/TG review. Child-centred approaches defined in Curriculum	TA to support development of CCA content in new curriculum Capacity development in pre-service and in-service teacher

CESR Phase 1 Recommendation	CESR Phase 2 In-Depth Analysis	CESR Phase 3 CESP
	Framework	education
Make a comparative study during CESR Phase 2 to ascertain whether using English as a language of instruction at HS level should be continued	International and regional comparison and review on the use of English as a language of instruction Reflect the advantages and disadvantages of using English as a language of instruction at HS level for different groups of students (eg urban/rural, academic/technical)	Prioritise needs of English by different students Identify policy and strategy for improving teaching through English as the language of instruction in some learning situations (ESP, EOP, EAP, EPP, EStP)
Revise the Basic Education curriculum so that dropouts from different levels of Basic Education attain better access to TVET and workplace skills – include some basic workplace skills.	A study of out-of-school youth (SES survey) linking to analysis of pre-vocational and TVET access and curriculum reforms. Review of linkages between MS, HS, TVET and Labour Market. Identification of vocational skills to include in draft CF and new curriculum content	Alignment of secondary curriculum and qualifications with TVET labor market analysis Mapping of the new curriculum to the world of work and to the participation of graduates in community and society (eg parenting and life skills)
Allocate more time to teaching co-curricular subjects and monitor this.	International Comparison of Instructional Hours; Review of the time allocated for core and co-curricular subjects at secondary level Include in CF the need for schools to identify appropriate co-curricular subjects and balance of teaching periods in accordance with the local contexts and students' interests	Strategies for strengthening of co-curricular subject teaching. Capacity development of head teachers, teacher educators and school supervisors to ensure co-curriculum is taught.
Vocational curriculum linked to the Basic Education and higher education sub-sectors	Study of the functioning of Pre-vocational schools[3] and their curriculum. Recommendations to strengthen the general technical high schools (GTHS) as a HS pathway to TVET and HE	TA under TVET component to strengthen functioning of general technical high schools Align HS and GTHS curriculum with requirements of employers, TVET and HE and align with post-secondary

[3] Note that, unless otherwise noted, "pre-vocational education is used in this report to refer to elements of general education that provide relevance and foundational skills development for the world of work, as distinct from general technical skills provided in General Technical High Schools.

CESR Phase 1 Recommendation	CESR Phase 2 In-Depth Analysis	CESR Phase 3 CESP
		qualifications and standards
A national-level education framework should be formulated to coordinate lower and upper secondary graduates and TVET.	Options paper and implementation considerations for restructuring Basic Education from 5-4-2 to KG-5-4-3 including HE/TVET interface.	Alignment of curriculum framework and re-structured curriculum with HE and TVET NSSA

1.1.3 Student Assessment and Examinations in Secondary Education

25. The current form of assessment used in secondary education focuses on summative assessment with Chapter-End Tests (CET), end of year examinations and the grade 11 school leaving Matriculation Examination. Students who fail the CET can re-sit the same test three times within a short period of time after which all children generally pass. Students are promoted at every grade through to grade 9 and they then struggle to achieve the pass mark in grade 9, 10 and 11. Grade and examination results may contribute to teacher promotion prospects and test scores are included in the KaKaSa system of school inspection. There is no moderation of school test and examination results between schools.

26. Throughout the education system the Chapter End Tests (CET) is a cause of stress for teachers, students and parents. Stress from the assessment system may cause some students to drop out of school. There is too much focus on assessment of content memorisation and no assessment of critical thinking skills. Assessment of personal characteristics and attitude to learning is included to a limited extent in the Comprehensive Personal Record (CPR) based on anecdotal scores (see below) but the record is a routine that is completed by teachers annually but with no function as a progressive reporting and assessment tool to be used by teachers in subsequent years, or by children and parents as a guide to improving performance. All students are assessed by the same methods (pencil and paper tests) and the same test questions with no differentiation by ability.

CPR Anecdotal for Middle and High School Assessment

(i) 75% school attendance
(ii) Free from social crime and abiding in the school rules and regulations
(iii) The obligations to school, teachers, parents and community, and taking care of the younger students by the elder ones
(iv) Keeping school environs verdant by growing plants, trees and lawns
(v) To be involved in the development task of the local community and of the State
Voluntary services for communal work
(vi) Assisting parents with their livelihood
Taking part in sports and games such as physical, callisthenic
Participation in aesthetics activities of literature, art and music
Participation in teams, clubs, social organisations and associations of the school

27. The CESR Phase 1 recommendations place significant emphasis on the need to reform school assessment and examinations. Against each of the Phase 1 recommendations, Table 2 below indicates the in-depth analysis that has been undertaken in Phase 2 and the components that need to be incorporated into the Phase 3 CESP.

Table 2 CESR Phase 1 Assessment and Examination Recommendations aligned to CESR Phase 2 in-depth analysis of secondary education and CESR Phase 3 CESP

CESR Phase 1 Recommendation	CESR Phase 2 In-Depth Analysis	CESR Phase 3 CESP
(i) Questions used in assessing learning at different levels (including matriculation exam questions) should encourage critical thinking. Provide teachers with training for framing such kinds of questions. Revise assessment systems used at different levels and CPR; because CPR is crucial for students, it should describe a part of a student's life.	On-going review of teachers and CDT subject specialists ideas on methods of assessment to be used in new curriculum Summary of comments from Assessment and Examinations consultation (01 Aug 13) is given in Section 1.4.6	Capacity development of curriculum teams and teacher educators in setting and administering assessment questions. Establish new approaches to assessment as part of the Curriculum Framework
(ii) Conduct an analysis to choose assessment tools and differentiate assessment types according to different objectives. For example, not all children should be assessed, but assessment could be conducted only in some townships to evaluate a curriculum.	Alternative approaches to assessment are being reviewed and discussed in CESR CDT sessions (see Annex 10 Key Policy Questions) Teacher, student teacher and teacher educator perceptions gathered from SES and T.Ed surveys	(i) Further capacity development required for CDT and teacher educators based on high level decisions and policy on new approaches to assessment (ii) development of curriculum materials (TB/TM) following capacity development (iii) school based capacity development of teachers and head teachers for effective implementation (iv) public awareness raising campaign to understand the changes
Upgrade the Myanmar Board of Examinations to a national quality assurance body that will set the national quality assurance framework; design and administer matriculation exams and other standardised tests, as well as state scholar selection exams; and develop quality assessment tools to assess learning at critical grades	International comparison of assessment systems and technical papers provided to CESR, Dr Myint Thein and DEPT CDT for background information. (see References in Annex 8-10) Key Policy Questions are identified to establish Examination Board functioning (see Annex 10)	Long term TA to develop Assessment and Examination Policy, Strategy, Capacity Development and Implementation Plan for central, state and school levels, also incorporated into Teacher Training Institutes / Universities and QA systems Establish a nucleus of in-country technical expertise
Systematically administer High School Leaving Exams at Basic Education schools, and allow those who pass those exams to be recognised and to continue	System review of the Matriculation Examination and analysis of pass rates by subject and location (data from IHLCS analysis and SES and T.Ed	Formulate Assessment and Examinations policy including improved administration arrangements for moderation, quality assurance of

CESR Phase 1 Recommendation	CESR Phase 2 In-Depth Analysis	CESR Phase 3 CESP
to TVET courses. Universities should administer their own entrance exams.	surveys) Recommendation to strengthen and give more recognition to G9 school leaving examination to support future raising of compulsory education to Grade 9 completion.	equivalency standards, etc Strengthen coordination between ministries to align HE / TVET qualifications and standards with Grade 11/12 examination
The quality of High School Leaving Examination should be improved in order to have recognitions	Phase 2 recommendation to strengthen and give more recognition to G9 school leaving examination to support raising of compulsory education to completion of middle school in future.	Draft examinations policy including strategies to ensure improved equity and recognition of learning achievement for all learners, not only the academically high achievers and those who have access to better quality education opportunity. Coordination between ministries to align qualifications and standards
Continue conducting National Examinations. Exam questions stimulating enthusiastic effort, critical thinking and creativity of students are needed. Establish norms based in the needs of Universities	UNICEF currently conducting standardised Learning Achievement examinations for Grade 3 and Grade 5 students.	Draft Assessment and Examinations Policy and Standards to include guidelines and strategy for conducting National Examinations and capacity development provided to support implementation
Beginning from 2015-16 academic year for current matriculation examination, one set of question for all States and Regions and another set for Foreign Examination Centre should be prepared	Further review of matriculation results and evaluation of the present system provided in Phase 2 report. Options and recommendations provided for reform of the Matriculation Examination	Draft Assessment and Examinations Policy and Standards for reform of the Matriculation Examination and capacity development provided to support implementation including international TA

28. The CESR Phase 1 report acknowledges the need to reform the regulations for students in monastic schools and the following recommendation is stated: “Ensure that the Ministry of Religious Affairs and MoE cooperate to enable middle school graduates, including novices and nuns, to obtain permission to take Grade 10 exams as outsider candidates in the following academic year”. A similar requirement is needed to ensure that Grade 11 students in monastic schools who have studied the G11 curriculum are eligible to sit the Matriculation Examination.

1.2 BASELINE STUDY OF THE SECONDARY EDUCATION CURRICULUM, TEXTBOOKS AND LEARNER ASSESSMENT

1.2.1 Baseline and Key Indicators

1.2.1.1 Curriculum Implementation – Baseline

29. The present secondary school curriculum in Myanmar is limited to, and understood as, a set of text books and teachers guides, implemented through teacher- centred pedagogy based on rote learning and memorisation of subject content provided in the text books, assessed through CETs and Matriculation Examination. Insufficient time is given to teaching of co-curriculum subjects as time allocation is often re-prioritised to teaching of core subjects.

1.2.1.2 Curriculum Implementation - key indicators

30. Key Indicators of improvement in curriculum implementation should include the following:

    (i) Comprehensive Curriculum Framework approved

    (ii) Improved textbook content relevance and quality of teaching materials

    (iii) Child centred approach to teaching and learning

    (iv) Practical application of learning to the local context

    (v) Formative assessment for differentiation of learning achievement – by subject and by individual achievement of learning outcomes

    Indicators (i) to (iv) will require descriptors of what would be observable evidence of implementation.

1.2.1.3 School Performance Indicators

31. School assessment results should be used as a performance indicator with caution. While student achievement and learning outcomes are useful as a quality assurance measure in school performance monitoring there is a danger that this will over- emphasise student assessment scores in a system that is already strongly driven by tests and examinations. Furthermore there is no evidence to suggest that school based or external assessment results are a validated and comparable measure of student learning achievement as there is no moderation of results between schools. An additional consideration is the need to use school performance data to contribute positively to school improvement. School performance will vary for a range of reasons such as location and socio-economic factors, teacher qualification, parental and community involvement and school leadership. These factors should also be considered in school performance monitoring and student achievement.

32. Standardised Learning Achievement Tests At present there is no national standard of achievement such as would be provided by a national assessment examination. The lack of standardized data on learning achievement creates a challenge for assessing the quality of any education system as it effectively reduces any evaluation to the level of inputs and outputs only. Myanmar's current learning assessment system relies on Matriculation exam test scores only. While this is a starting point, it does not allow for the tracking of learning achievement outcomes and evaluation of the learning effectiveness at key grades 3 and 5 to inform the on-going education reform process. Recognizing this gap, the MOE in collaboration with UNICEF has been engaged in piloting several rounds of standardized learning achievement assessments since 2007, involving up to 40,000 primary students between 2012 and 2013. The lessons learned from these large-scale pilot assessments will provide recommendations for the way forward towards the use of standardized nation-wide assessments linked to global and regional learning metric frameworks. The LMTF may in future be scaled up to include

secondary grade national assessment and may also be linked to the SEAMEO Primary Learning Metric initiative or the UNESCO global framework for measuring learning, currently under development.

1.2.1.4 Capacity development and CPD Baseline and Indicators

33. All aspects of the curriculum reform will require capacity development especially for teachers and head teachers. The baseline at present is that there is limited and ad hoc opportunity for CPD and capacity development of secondary school teachers and head teachers. Three indicators that may be used in future to monitor curriculum implementation and capacity improvement are (i) equitable access to CPD opportunities for secondary school teachers and head teachers, teacher educators and curriculum development teams, (ii) implementation of teacher competencies currently being formulated under the CESR Teacher Education component, and (iii) inclusion of CPD as a component of quality assurance monitoring.

1.3 INTERNATIONAL COMPARATIVE STUDY

1.3.1 References – Regional and Global Comparative Studies

34. An extensive range of literature is accessible through the internet to support the understanding of the complexities of education sector reform, curriculum reform and reform of assessment and examination systems. Annexes 8 to 10 provide international examples of best practice and description of systems that operate in other countries:

35. International Comparison of High School Curriculum (Annex 8):

- UNESCO Education Systems in ASEAN+6 Countries
- UK Department for Education Framework for the National Curriculum
- Country Summaries: Brazil, Mexico, New Zealand, Norway, the People's Republic of China (PRC), Philippines, India

36. Comparison of Competency-Based Curriculum definitions (Annex 9):

- US Department of Education
- EFA 200 Assessment Survey: Assessing Basic Learning Competencies Among Youth
- OECD Definition and Selection of Competencies
- Partnership for 21st Century Skills
- UK Key Stage 5 (High School) Minimum Standards – including vocational skills qualification equivalence standards

37. International Comparison of Assessment and Examinations (Annex 10):

- Key Assessment and Examination Policy Questions (Uganda);
- Asia Pacific Reviewing Examination Systems Guiding Questions;
- International comparison: Examination System Structures – functions, roles and responsibilities
- Other References

38. Listed in Annex 10 is a selection of information sources that have been used to provide material on assessment and examinations for discussion with CESR CDT members and in other technical discussions during CESR Phase 2. The topics are wide ranging and give some indication of the complexity and technical depth of the reform process. These sources provide curriculum resource materials from England, Scotland, California USA, NSW Australia and

Bhutan, that might help guide the development of new policy, strategy and secondary school curriculum content in Myanmar.

1.3.2 UK School Reform process (England / Scotland curriculum framework)

39. In 2011 a process of curriculum reform for England was initiated by the Secretary of State for Education. A broad-based consultation process has been undertaken and a curriculum framework drafted including aims, subject structure, statutory entitlements, setting suitable challenges for all children of all abilities under UK equal opportunities legislation, language, literacy and numeracy requirements, programs of study, subject content and attainment targets for all core and co-curriculum subjects. Final decisions on the curriculum are made by the Education Minister and are then subject to the approval of Parliament. All national curriculum documents are available from Autumn 2013 for statutory enforcement and implementation from September 2014. A program of orientation and support is provided for schools and a comprehensive set of curriculum documents for all subjects and school levels is accessible on the Department of Education website:
http://www.education.gov.uk/nationalcurriculum

40. The Scottish Curriculum of Excellence Management Board is developing a parallel reform of the Scottish school curriculum. Following a similar process of consultation through to parliamentary approval, the Scottish curriculum focuses on partnerships between schools and colleges to develop a flexible system that provides clear learning pathways through to senior secondary education and post-secondary education. Concern was expressed at the short timeframe for implementation with a process that started in 2010/11 and was to be introduced in 2013/14. Also of concern was the range of provision required to cater to a diverse group of learners and the need to plan carefully for year by year progression with reduction in the quantity of assessment that students' experience. Each of these concerns may be considered in the Myanmar context where planning for alternative learning pathways, provision for diverse groups of learners and reduction in assessment and examination pressures could improve overall performance and learning achievement. http://www.educationscotland.gov.uk/thecurriculum/

41. The new Scottish secondary curriculum includes two skills frameworks:

    - the 'functional skills' of English, mathematics and ICT, which are concerned with the application of literacy, numeracy and ICT skills, and
    - 'personal, learning and thinking skills' (PLTS), which cover team working, independent enquiry, self-management, reflective learning, effective participation and creative thinking skills.

42. Both build on the non-statutory 'key skills' framework included in the previous version of the secondary curriculum.

43. Finally, the new secondary curriculum incorporates seven non-statutory 'cross-curriculum dimensions':

    - Identity and cultural diversity;
    - Healthy lifestyles;
    - Community participation;
    - Enterprise;
    - Global dimension and sustainable development;
    - Technology and the media, and

- Creativity and critical thinking.

1.3.3 USA California Common Core Curriculum Standards

44. Educational standards describe what students should know and be able to do in each subject in each grade. In California, the State Board of Education decides on the standards for all students, from kindergarten through high school. The California Department of Education helps schools make sure that all students are meeting the standards.

45. Since 2010, 45 states have adopted the same standards for English and math. These standards are called the Common Core State Standards (CCSS). Having the same standards helps all students get a good education, even if they change schools or move to a different state. Teachers, parents, and education experts designed the CCSS to prepare students for success in college and the workplace. The California Department of Education helps schools make sure that all students are meeting the standards. A wide range of information about the standards and the CCSS-related activities taking place in California is openly available to teachers, parents, school managers and students through the internet: http://www.cde.ca.gov/re/cc/

1.3.4 UK Curriculum and Assessment Comparison

46. During the period 1996 to 2013, the International Review of Curriculum and Assessment Frameworks Internet Archive, known as INCA, provided descriptions of government policy on education in 21 countries worldwide. It was originally commissioned by the School Curriculum and Assessment Authority (SCAA) in England and funded and supported by its successors - the Qualifications and Curriculum Authority (QCA) and the Qualifications and Curriculum Development Agency (QCDA). Following the closure of QCDA in 2011, the INCA website was supported by the Department for Education. Content has always been managed and updated by the National Foundation for Educational Research (NFER).

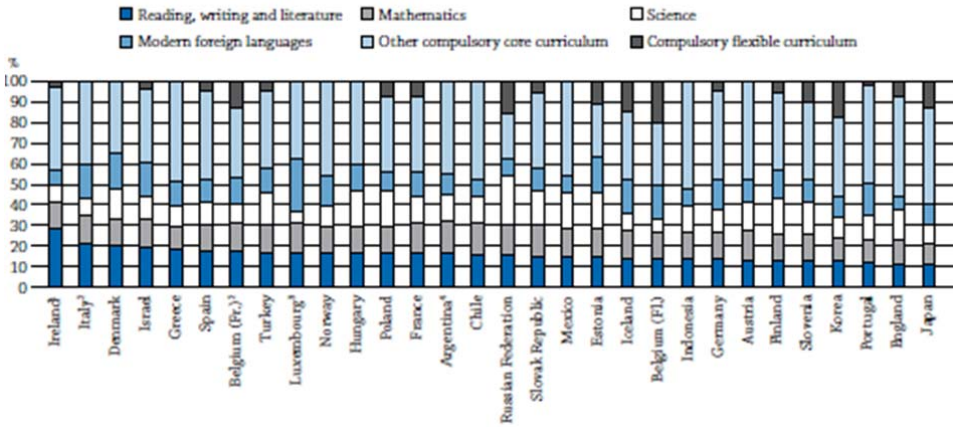
47. INCA focussed on the curriculum, assessment and initial teacher training frameworks for pre-school, primary, lower secondary and upper secondary education in schools (3-19 age range) in Australia, Canada, England, France, Germany, Hungary, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Northern Ireland, Scotland, Singapore, South Africa, Spain, Sweden, Switzerland, the USA and Wales. Comparative tables are available on: schooling duration, phases; subjects in the compulsory phase curriculum; curriculum structure and organisation; national assessment and public examination arrangements; control and supply of school textbooks (http://www.nfer.ac.uk/what-we-do/information-and-reviews/inca.cfm).

1.3.5 International Comparison of Instructional Hours / UNESCO

48. The CESR Phase 1 report included a table showing the number of instructional hours in a range of countries. The tables below illustrate the way in which the instructional hours are distributed across various subject areas with between 40-50 percent of the intended teaching time allocated to reading, writing and literature, mathematics and science for 12-14 year olds. A comparison should be made with the proposed instructional hours in the new Myanmar curriculum framework to reflect a similar distribution of hours per subject.

Chart D1.2b. Instruction time per subject as a percentage of total compulsory instruction time for 12-14 year-olds (2009)

Percentage of intended instruction time devoted to various subject areas within the total compulsory curriculum



Source: OECD. (2011). *Education at a Glance: OECD Indicators.* OECD Publishing

49. The following table indicates the compulsory and intended instructional time expressed as the average number of hours per year for primary middle and high school students in various countries. This shows a lower average than the figures given in CESR Phase 1 report. A comparison between the two sets of data can be used to establish a reasonable number of instructional hours for Myanmar middle and high school grades. More importantly is the need to ensure that the approved intended hours and allocation across subjects and between core and co-curricular subjects are adhered to by all schools through a robust system of monitoring and quality assurance.

Table D1.1. Compulsory and intended instruction time in public institutions (2009)

Average number of hours per year of total compulsory and non-compulsory instruction time in the curriculum for 7-8, 9-11, 12-14 and 15-year-olds

	Ending age of compulsory education	Age range at which over 90% of the population are enrolled	Average number of hours per year of total compulsory instruction time					Average number of hours per year of total intended instruction time				
			Ages 7-8	Ages 9-11	Ages 12-14	Age 15 (typical programme)	Age 15 (least demanding programme)	Ages 7-8	Ages 9-11	Ages 12-14	Age 15 (typical programme)	Age 15 (least demanding programme)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OECD												
Australia	15	5 - 16	972	971	983	964	932	972	971	983	964	932
Austria	15	5 - 16	690	766	913	1 005	960	735	811	958	1 050	1 005
Belgium (Fl.)	18	3 - 17	a	a	a	a	a	831	831	955	955	448
Belgium (Fr.)[1]	18	3 - 17	840	840	960	m	m	930	930	1 020	m	m
Canada	16 - 18	6 - 17	m	m	m	m	m	m	m	m	m	m
Chile	18	6 - 15	675	675	709	743	743	855	855	855	945	945
Czech Republic[2]	15	5 - 17	624	713	871	950	683	624	713	871	950	683
Denmark	16	3 - 16	701	803	900	930	900	701	803	900	930	900
England	16	4 - 16	893	899	925	950	a	893	899	925	950	a
Estonia	15	4 - 17	595	683	802	840	m	595	683	802	840	m
Finland	16	6 - 18	608	640	777	856	a	608	683	829	913	a
France	16	3 - 17	847	847	971	1 042	a	847	847	1 065	1 147	a
Germany	18	4 - 17	643	794	898	912	m	643	794	898	912	m
Greece	14 - 15	5 - 17	720	812	821	798	a	720	812	821	798	a
Hungary	18	4 - 17	555	601	671	763	763	614	724	885	1 106	1 106
Iceland	16	3 - 16	720	800	872	888	a	720	800	872	888	a
Ireland	16	5 - 18	941	941	848	802	713	941	941	907	891	891
Israel	17	4 - 16	914	991	981	964	m	914	991	981	1 101	m
Italy	16	3 - 16	891	913	1 001	1 089	m	990	1 023	1 089	1 089	m
Japan	15	4 - 17	709	774	868	m	a	709	774	868	m	a
Korea	14	7 - 17	612	703	867	1 020	a	612	703	867	1 020	a
Luxembourg	15	4 - 15	924	924	908	900	900	924	924	908	900	900
Mexico	15	4 - 14	800	800	1 167	1 058	a	800	800	1 167	1 058	a
Netherlands	18	4 - 17	940	940	1 000	1 000	a	940	940	1 000	1 000	a
New Zealand	16	4 - 16	m	m	m	m	m	m	m	m	m	m
Norway	16	3 - 17	700	756	829	859	a	700	756	829	859	a
Poland	16	6 - 18	446	563	604	595	a	486	603	644	635	a
Portugal	14	5 - 16	875	869	908	893	m	910	898	934	945	m
Scotland	16	4 - 16	a	a	a	a	a	a	a	a	a	a
Slovak Republic	16	6 - 17	687	767	813	926	926	715	785	842	926	926
Slovenia	14	6 - 17	621	721	791	908	888	621	721	791	908	888
Spain	16	3 - 16	875	821	1 050	1 050	1 050	875	821	1 050	1 050	1 050
Sweden[3]	16	4 - 18	741	741	741	741	a	741	741	741	741	a
Switzerland	15	5 - 16	m	m	m	m	m	m	m	m	m	m
Turkey	14	7 - 13	720	720	750	810	a	864	864	846	810	a
United States	17	6 - 16	m	m	m	m	m	m	m	m	m	m
OECD average	16	5 - 16	749	793	873	902	860	775	821	907	941	889
EU21 average	16	4 - 17	746	790	865	897	865	767	815	902	935	880

Source: OECD. (2011). *Education at a Glance: OECD Indicators.* OECD Publishing

1.3.6 English as the Language of Instruction

50. Table 3 shows the countries in which English is used as the language of instruction in secondary education, aside from those countries where English is widely spoken and may be considered as the first or lingua franca language. The table shows those countries where a combination of first language and English are used as language of instruction in secondary schools. Two critical considerations in deciding which language(s) should be used as the language of instruction in secondary schools are (i) the competency / proficiency of teachers to communicate in the language of instruction, and (ii) the impact of language of instruction on the students ability to learning the subject with understanding. A language policy that allows for differences by state or region offers one solution but consideration must then be given to challenges such as (i) inequalities in opportunity to access tertiary level studies; (ii) resources required at national, regional or state level to support different language options; (iii) maintaining a balance between the desire for social and economic integration, retaining cultural identify and the potential for increasing segregation and division between communities.

Table 3 Summary of Countries in which English is used to some extent in Secondary and Post-Secondary Education

English as Language of Instruction in secondary school	Pakistan – in private schools Tanzania Zimbabwe (from 4th Grade)
English as optional / additional language of instruction in secondary school	Bangladesh - Bengali and English Bhutan – Dzongkha and English Brazil – mandatory English once or twice a week Hong Kong – English or Cantonese India – English, Hindi and respective states' official languages Malaysia – Malay with English as a compulsory subject Philippines – Filipino Singapore – English except for "mother-tongue" subjects Turkey – Turkish and English Taipei,China – Mandarin and compulsory English
English language of Instruction at Tertiary Level	Hong Kong – English India – English or regional language

1.4 ANALYSIS AND RECOMMENDATION OF NEEDED ACTIONS FOR REFORM OF THE SECONDARY EDUCATION CURRICULUM

1.4.1 Review of Secondary Education Curriculum – Overview

51. In the CESR Phase 2 period from May to December 2013 the CESR secondary curriculum team worked closely with members of the DEPT secondary Curriculum Development Team to undertake an in-depth analysis of the secondary school curriculum. The following steps in the curriculum reform process were discussed and agreed in the first working group session.

52. The three main areas of focus for the Phase 2 in-depth analysis of the secondary curriculum were (i) review of the existing Grade 6-11 curriculum documents (textbooks and teachers guides) with recommendations for preparation of the new secondary curriculum content; (ii) preparation of a Curriculum Framework as a foundation document on which the new secondary curriculum would be developed post-Phase 2, including an implementation plan and timeframe for development and rollout of the new curriculum; capacity development of the Curriculum Development Team in undertaking the curriculum review. A summary of the capacity development and secondary curriculum review consultation sessions is provided in Annex 7, with a list of the CESR and CDT participants, the key documents referenced and a list of the key outputs from the 8 months of work.

STEPS IN THE CURRICULUM REFORM PROCESS	Timeframe
Review old curriculum – structure, strengths, weaknesses, gaps, overload, etc Phase 1 Rapid Assessment of the curriculum Phase 2 in-depth analysis of the curriculum – analysis of alignment of curriculum to new KG-G12 school structure. Recommendations for curriculum structure, appropriate content, identification of basic learning competencies, pedagogical approaches, reform of assessment and examinations	2012-13 2013
Develop a Curriculum Framework for the new curriculum KG-G12	2013/14
Implementation Plan for development of new TB/TG for KG-G12 to cover the period 2013-2020	2013/14
Detailed plan for roll out of the new curriculum into schools – teacher training requirements, school assessment reform, public information and awareness raising, teacher supply and redeployment, etc	2013/14
Phased roll out of new curriculum guided by the implementation plan	2014-20
Monitoring and evaluation of the new curriculum	2014/20

1.4.2 In-Depth Analysis of Secondary School Curriculum, Pedagogy and Assessment

53. A comprehensive review of the textbooks and teachers guides for all grade 6-11 core and co-curricular subjects was undertaken. The curriculum review included a process for identification of overload, outdated content and content gaps. A matrix was used to structure the review process (Annex 4 Secondary Curriculum review – Analysis Matrix). The review and recommendations for the new curriculum content is well documented and is readily available for curriculum writing teams to use in future revision of textbooks and teachers guides. The information gathered through the review process has been used as a reference for revision of Grade 6-11 textbooks and teachers' manuals undertaken in Oct/Nov 2013, in preparation for revised textbooks and teachers guides to be distributed to schools in SY 2014/15.

54. **Findings – Textbook and Teachers Guide Review**: A summary of the key points that were recorded during the review of secondary textbooks and teachers guides is given in Annex 11. New modules and course content is will be identified and will need to be approved by the curriculum expert panel for inclusion in the new secondary curriculum, for example 21st century skills and vocational skills (see Section 1.4.4.3 for early drafts of the new curriculum structure, currently under discussion). These new areas of content will require extensive research and resources as well as technical assistance to support the development of teaching and learning materials and also, critically to support the in-service capacity development of teachers, head teachers and teacher educators to familiarise them with the new curriculum content.

55. **Findings – teaching methodology, and the linkage to assessment and examinations** Teacher centred methods are used in all secondary school grades, including the extensive use of rote learning and memorisation of the textbook content to the exclusion of any other teaching and learning methods. This is a direct consequence of the assessment and examinations system used in primary and secondary grades whereby students are required to memorise and reproduce the answers exactly from the textbook content. Student teachers are introduced to other teaching methods during teacher training but they do not practice these more child

centred methods once they are appointed to teach in schools. Teacher performance is measured by on-time completion of chapters and results of chapter end tests. Teachers are under pressure from other teachers, head teachers, parents and inspectors to conform to the system of teaching through memorisation to complete the textbook content and for students to pass the tests and examinations.

56. **Recommendation – Curriculum Review and Monitoring Instrument** A procedure for systematic and regular 5-8 year review of the curriculum is needed. The Curriculum Analysis Matrix (Annex 4) could be used as a review and monitoring tool in future review cycles as it enables systematic and consistent analysis of each subject and grade.

57. **Recommendation – Development of the new secondary curriculum subject content** Technical assistance will be needed for capacity development of the CDT and curriculum writing teams with access to appropriate resources, including computers and reference materials, for development of the new secondary curriculum content.

58. **Recommendation – introduction of new pedagogical and assessment practice in secondary schools to support the new curriculum** The new curriculum will be designed to provide teachers and students with guidance and examples of activities that support and reinforce active, student centred teaching and learning, with opportunity for development of higher level thinking skills through problem solving and critical thinking activities. A modification of the child-centred approach (CCA) developed for primary school students should be considered for secondary school grades. The assessment methods will also reflect and support this approach. Teachers, head teachers, teacher educators and quality assurance teams will need to be familiarised with these approaches and parents will need to be helped to understand and appreciate the new approach to learning. A phased and graduated approach may be designed to enable a steady transition away from 100% rote learning and assessment to more participatory student centred approaches. Technical assistance and on-going capacity development will be needed. The capacity development should be taken into the schools and incorporated into school improvement and related CPD activities. Schools that are able to actively incorporate the new pedagogical and assessment practices should be used as demonstration models for other schools to observe and experience.

59. Findings and recommendations relating to assessment and examinations are presented in section 1.4.5 and 1.4.6, below.

1.4.3 Development of the Curriculum Framework

60. The CESR primary and secondary curriculum teams have coordinated their work with the DEPT CDT team throughout Phase 2 to conceptualise the Curriculum Framework for Myanmar. It is recognised that this is a prerequisite for development of the new school curriculum and should cover the full Basic Education years from KG to G12 to ensure continuity and consistency. An outline structure for the Curriculum Framework has been discussed and developed by the Secondary Education curriculum team. The latest draft Curriculum Framework is presented in Annex 2 and may be considered as a work in progress. High level discussions and decisions will feed into further iterations of this structure to formulate the final approved Curriculum Framework in early 2014. The timing of this final approved Curriculum Framework is critical for the curriculum teams to be able to progress further with detailed development of the new curriculum content and approaches to implementation.

61. The Curriculum Framework will provide clarification and confirmation of subjects and learning areas to be included in the new secondary school curriculum structure including the first draft new curriculum structure (see section 1.4.4.1); new Grade 12 (see section 1.4.4.2); teaching hours for each school level (see section 1.4.4.3); core curriculum and co-curriculum subjects (see section 1.4.4.4); options for science and arts streams in Grades 10-12 (see section

1.4.4.5); 21st century skills in the new secondary curriculum (see section 1.4.4.6); vocational skills specialisation including local curriculum, and strengthening of pathways to general technical high schools in Grades 10-12 (see section 1.4.4.7); and English as the Language of Instruction in Grades 10-12 (see section 1.4.4.8). The CESR Phase 2 findings and recommendations for each of these topics are outlined in the following sections.

1.4.4 Proposed New Secondary Curriculum Structure and Content

1.4.4.1 First Draft proposed new curriculum structure

62. In the draft Curriculum Framework (Annex 2 Section 1.5) a potential packaging of subjects is presented based on a first draft curriculum structure for middle and high schools. This outline curriculum, drafted by Dr Myint Thein, has been slightly re-organised to group subjects and modules. The model is presented for discussion and further revision. The model has also been presented by Dr Myint Thein to the curriculum development team and separately to the curriculum expert panel. Feedback from both groups will provide further guidance towards re-structuring of the new curriculum. Some key considerations are highlighted below with reference to this first draft proposed new curriculum structure.

63. The draft proposed new curriculum structure includes core subjects, 21st century skills and vocational skills subjects for middle school grades 6-9. The high school curriculum in this model includes a science stream and an arts stream with core subjects, electives, 21st century skills and vocational skills in grades 10-11 and a focus on fewer, more specialised core subjects in grade 12.

1.4.4.2 Introduction of Grade 12 curriculum

64. **Findings – topics for Grade 12 curriculum** In the process of reviewing the Grade 6-11 curriculum consideration has been given to the new secondary school subject structure including the new Grade 12 curriculum. The review has identified a number of topics in the Grade 6-11 curriculum that are overloaded and which could benefit from being extended into Grade 12 to enable teachers to give sufficient time for improved coverage of the content.

65. **Recommendation – decongestion of the curriculum** Where curriculum topics are overloaded the curriculum development team should consider extending and re-allocating some content into the Grade 12 curriculum. In order to address the widely spoken concern of teachers regarding overload of the present secondary curriculum, emphasis must be given to decongesting the current curriculum with only minimal new content added where there is outdated information or gaps in the existing content.

1.4.4.3 Teaching Hours

66. **Findings – instructional hours** A review of the teaching hours for each subject and each secondary school grades is being undertaken to ensure a balance and alignment to international norms (Annex 2, Section 1.5.1 and 1.5.2). This is an on-going exercise that will need to be discussed in detail once the new secondary school curriculum structure is approved by the MOE.

67. **Recommendation – Grade 6-9 proposed teaching hours (for further discussion)** The allocation of teaching hours for the middle school curriculum (Annex 2, Section 1.5.1) is based on alignment with the old curriculum for all subjects except Social Studies (geography) and Social Studies (history) both of which have been increased to align with other core subjects. The draft curriculum instruction hours is prepared for discussion and further revisions as the curriculum structure is agreed. The draft structure includes some modules which reflect incorporation of 21st century skills and vocational skills for employment.

68. In this proposed draft version the existing middle school teaching hours would be increased from 923 per year to 1080 hours per year; increased from 35 to 40 periods per week and increased from 26.25 hours to 30 hours per week. This equates to an additional 45 minute period each day or 5 additional periods each week for Grade 6-9 students, based on the existing 36 weeks per academic year.

69. **Recommendations – Grade 10-12 indicative teaching hours (for further discussion)** The allocation of teaching hours for the high school curriculum (Annex 2, Section 1.5.2) is based on alignment with the old curriculum with alignment of teaching time for each core subject (135 hours per year), electives (54 hours per year) and with other skills subjects (13.5 or 27 hours per year). This draft is prepared for discussion and further revisions as the curriculum structure is agreed. The draft structure includes 6 core subjects in the science or the arts stream studied through grades 10-12 with increased teaching hours in Grade 12 for academic specialisation by reducing vocational and co-curriculum teaching hours. The overall teaching hours are increased from 923 per year in the existing middle school curriculum to 1080 hours per year in this proposed draft version. This equates to an additional period each day or 5 additional periods each week for Grade 10-12 students, based on the existing 36 weeks per academic year.

1.4.4.4 Core Subjects and Co-Curricular Subjects

70. **Findings – Core and Co-Curriculum Teaching Hours** The curriculum review findings indicate that the teaching hours allocated to co-curriculum subjects are often re-assigned to provide more teaching time for core curriculum subjects. There are two main and inter-related reasons: (i) the co-curriculum subjects are not assessed through tests or examinations so if the co-curriculum is not taught it will not impact on test and examination results; (ii) core curriculum subjects are assessed, the curriculum content has to be covered and is overloaded. Where teachers find there is insufficient time to cover the core curriculum content they utilise some of the co-curriculum teaching time. One of the stated principles of education in Myanmar is to produce all-round balanced individuals. To achieve this it is important that the co-curriculum subjects are taught and time allocation is adhered to.

71. **Recommendation – Core and Co-Curriculum Teaching Hours** A monitoring mechanism is needed within the quality assurance system as part of school supervision and inspection visits to check and ensure that the intended instructional hours for the core and co-curriculum subjects are adhered to in all secondary schools.

1.4.4.5 Science and Arts streams in High School Grades 10-12

72. **Finding – Grade 10-12 Science and Arts streams** The draft proposed new curriculum structure for grades 10-12 (Annex 2, Section 1.5.2) offers two streams at high school. The structure is similar to the present system in which students can elect to study three science or social studies subjects in addition to compulsory Myanmar language, Mathematics and English. There is little provision for careers guidance and counselling at this stage when students are choosing their specialisations and choices are made on the basis of parental preferences and aspirations to gain entrance into the university courses offering the best employment prospects. Anecdotal evidence from school survey visits and from examination results suggest that there is a high level of disappointment and unfulfilled expectations among high school graduates.

73. **Recommendation – Grade 10-12 Science and Arts streams** Further analysis is needed to understand the choices and expectations of Grade 10 and 11 students. Provision of career guidance and counselling at middle school grade 9 and high school grade 11 would ensure that streaming into science and arts subjects is more closely matched to student ability and interests and that students have a clear understanding of the possible career and further

studies pathways and options. (see also related recommendations for linking high school and general technical high school grade 10-12, section 1.4.4.7)

1.4.4.6 Incorporating 21st Century Skills in the Secondary Curriculum

74. 21st century skills is a new area of the curriculum being incorporated into the reform of secondary school curriculum in many countries globally. In the context of Myanmar education sector reform this is an important aspect of curriculum change as the goal of education is to prepare young people for the future study and employment opportunities that will arise as a direct result of socio-economic developments across the country. Each country must determine the focus of its own 21st century skills curriculum based on the local context and priorities for growth. There is also a need to consider the capacity of teachers and classroom resources to introduce new skills.

75. **Findings – 21st century skills** The present curriculum is very outdated and will benefit from revisions to incorporate a more relevant content. The inclusion of 21st century skills into the secondary school curriculum will automatically require a change of pedagogy from the current teacher centred rote learning approach to a more student centred, participatory approach in which students are challenged to become enquiry minded. Teachers and students will need to have access to a wider range of information and resources than are currently available through the textbooks and teachers manuals. Such a curriculum will motivate students to continue their education and will better prepare them for the world of work and further studies than the current curriculum and teaching approach.

76. **Recommendations – 21st century skills** In order for teachers and students to be able to take on new content under the umbrella heading of 21st century skills it will be necessary to have relevant new content that will be of value and interest to students. Capacity development will be needed for teachers, head teachers, curriculum developers, teacher educators, parents and employers. It is recommended that 21st century skills should be interpreted in relation to global, regional, national and sub-national issues and debate and designed to enable students to consider such topics through application of critical thinking, problem-solving and communication skills. It is proposed that elements of 21st century skills are incorporated into core subjects as cross-cutting themes and modules and not as a separate subject. 21st century skills will need to be defined and described in detail as part of the curriculum framework. Resources will be needed to support teachers and students in this new area of study.

1.4.4.7 Vocational Skills Specialisation and Strengthening of Pre- Vocational School Curriculum

77. The new secondary school curriculum will have to take into consideration alignment to Myanmar's emerging socio-economic context, including future labor market demand for skills and identification of alternative pathways for an increasing number of students to progress from middle school into TVET & higher education.

78. The CESR Phase 1 report recommends strengthening of curriculum alignment between middle school, high school and general technical high school. The vocational curriculum and basic education curriculum should be a foundation for higher education, TVET and aligned with workplace skills and labour market needs. The curriculum alignment should be incorporated in the National Education Framework.

79. **Findings - Vocational and Academic subjects in Secondary Education** Information gathered from various stakeholders including students, teachers, teacher educators and professors during the CESR Phase 2 in-depth analysis is summarised below in relation to the need to balance academic and vocational learning in secondary schools:

    - The present curriculum is too strongly academic focused and too theoretical so students are somewhat weak in application of knowledge and skills;

- Secondary school subjects should be more student centred and should be used to apply learning to real life;
- Vocational skills focus needs to be added for all students, including development of skills in using teamwork and project work;
- Academic and vocational skills teachers need to be trained before implementing the new curriculum;
- Students need to be trained in study skills - how to use the library and other sources of information. New resources are needed to support this;
- Curriculum developers need to consider how to integrate and combine vocational skills into the academic curriculum;
- Pedagogy in secondary education needs to change to be more skills focused;
- 20% local curriculum should be encouraged, to make it more directly relevant to students' vocational and to employment opportunity in each part of the country;
- There is a gap between G11 and university level skills and knowledge. The new curriculum should address how to bridge the gap.

1.4.5 Findings and Recommendations for Pre-vocational schools in Myanmar

80. **Findings – functioning and curriculum of pre-vocational schools** According to the list of Prevocational schools in Regions and States mentioned in the Phase1 Report, there are altogether 121 schools around the country. Yet, after some inquires to each of the regions and states, it is found that there are neither particular prevocational schools nor particular curriculum for prevocational subjects. Those so-called prevocational schools are currently functioning as general high schools and middle schools and the prevocational subjects are being taught as co-curriculum subjects. It is also mentioned that some schools give one extra teaching period for the subjects. Few schools use the Teacher's Guide (old) book which were once published and used during 1964-1974. In the past, the teachers were qualified and graduated from Technical High School or other relevant institutes. However, currently, as there are no particular trainings for teachers there are no properly trained teachers to be substituted for retired teachers who had attended training courses.

81. During the workshop, 'Joint Consultation Primary and Secondary Curricula, it was also confirmed that the system of prevocational schools were once used round about 1960s and 70s but eventually was not able to survive. Some possible reasons are limited linkage between the contents of the prevocational subjects and local contexts, needs and demand for man power planning, school programmes and job opportunity. At the present situation, the majority of students drop out of school due to the fact that they expect that they cannot go through the higher education. Therefore, it is highly recommended that there should be proper prevocational schools with sufficient qualified teachers and suitable teaching and learning aids in order to solve the issue of unemployment and meet the demand for skilled workers in the country.

82. Of the 121 pre-vocational schools in the country some are reportedly not functioning or are functioning as regular high schools. Students who score low marks in the Grade 9 end of year examination may be required to enrol in the pre-vocational school in the case that there is one in their area rather than in the high school. One suggestion was that the location of pre-vocational schools should be considered, for example in poorer and more remote areas where secondary students may be underserved by other opportunities for vocational training and where an introduction to local skills and work placement may be incorporated into the high school curriculum.

83. **Recommendation – functioning and curriculum of pre-vocational schools** In the draft proposed new curriculum structure (Table 4, 5 and 6) vocational skills is included in the middle school curriculum, not as traditional workshop skills, but through vocational theory, soft skills and application of knowledge as a preparation for the transition from school to work. In the present Myanmar context it is neither feasible nor affordable to include workshop skills in middle or high schools which would overly stretch an already loaded system. Rather it is recommended that all subjects should be made more relevant and applied to skills and knowledge used in the world of work.

84. A proposed re-structuring of the secondary school curriculum to better align vocational skills is outlined in the draft Curriculum Framework (Annex 2, Diagram 3a), for further discussion. In this model vocational skills orientation and careers guidance and counselling is provided in middle school. Students who are academically inclined transfer to high school as a pathway to higher education. Students who are technically inclined transfer to general technical high school as a pathway to technical qualifications at certificate, diploma and degree level.

85. **Recommendation – Strengthening of technical pathways in Secondary Education** In order for Myanmar to strengthen its work force with the technical and vocational skills that will be required and increasingly in demand in future, and to address future rising unemployment and under-employment, a strategy is needed for raising the status and quality of pre-vocational education in general technical high school grades 10-12. The curriculum in general technical high schools should be developed in parallel with the high school curriculum development. The new curriculum should be strongly focused on local context and relevance to career and employment opportunities. Grade 12 graduates from general technical high schools would complete grade 12 with a high school leaving certificate and a level 1-4 technical skills qualification.

86. **Recommendation – Pre-Vocational Curriculum**[2] A review of the general technical high school Grade 10-11 curriculum should be undertaken in parallel with the High School Grade 10 and 11 curriculum review to align to the new high school Grade 10-12 curriculum and examinations. Alongside the pre-vocational curriculum review and revision it is recommended that a program for career guidance and counselling provision in middle and high schools should be introduced to enable Grade 6-12 students and their parents to make timely and well-informed study and career choices. Other recommendations for strengthening pre-vocational education are:

- To standardise the criteria for promotion from grade 5 to 6, from grade 9 to 10 and grade 12 to Higher Education and TVET to include assessment of attitude, knowledge, skills, aptitude and interest;
- To identify vocational skills to be introduced in middle schools, high schools and General Technical High School reflecting local contexts: for example local agriculture sector, small business finances, career pathways, and basic workplace skills..

1.4.5.1 English as the Language of Instruction in High School grades:

87. The CESR Phase 1 report proposes a recommendation to "Make a comparative study during CESR Phase 2 to ascertain whether using English as a language of instruction at upper secondary level should be continued".

88. Myanmar education professionals are divided as to whether or not English should be used as the language of instruction in middle and high school grades. The main criticism is that it impacts on conceptual learning and forces students and teachers to resort to memorisation to pass tests and examinations. The use of English as the language of instruction in middle and high school grades is perceived to create a barrier to subject learning and assessment. There is also a concern that many teachers lack English language competency and are unable to teach

their subject through English language. Similar problems were observed in Institutes of Education where the language of instruction is English and where some teacher educators and many student teachers continue to struggle to study meaningfully in English.

89. Preliminary analysis of the SES school survey responses (pre-survey sample of 8 head teachers, 76 teachers and 166 students in 24 schools in three states) provides some information on perceptions of secondary school teachers (see CESR Phase 2 SES Report):

- overall, roughly a 2/3 (67%) majority respond that teaching high school subjects in English is "good", however, a substantial minority (roughly 33%) disagrees;
- breaking down by subject area gives some evidence that teachers may be responding to the question based on how they think would be most appropriate: e.g., the share thinking teaching math & science in English is "good" is much larger for teachers of Myanmar language, who actually shouldn't be affected. By contrast, more than 40% of Physics teachers in the pre-test sample think this is not a good idea;
- interestingly, 50% of English teachers in the sample also think this is not a good idea. Perhaps they also face challenges from the standpoint of trying to teach English per se;
- finally, breaking down by age shows that the slight majority (57%) of young/less experienced teachers (those in either the 20-25 or 26-30 age ranges) seem to oppose teaching math & science in English. Perhaps this is because they struggle the most, English language skills have slipped in recent years, or they are not so ingrained in the system and thus able to more independently express their own views.

90. In consultation with the DEPT secondary curriculum development team, the following advantages and disadvantages of using English as Language of Instruction in upper secondary school were identified:

- English as the language of instruction forces students to memorise the subject content
- All teachers and head teachers need Basic English upgrade training
- Terminology should be included as a glossary in Myanmar and English
- Improve G6-9 standard of English by including Myanmar/English translation of key words in the passage
- A Bi-Lingual Teachers Manual would assist G10-12 teachers who are not fluent in English

91. The issue of teaching English will become increasingly important as the country opens up and will need to be addressed at post-secondary level if not at secondary level.

92. **Recommendations – English as the Language of Instruction in Secondary Schools and Institutes of Education** If Grade 10-12 mathematics and science subjects are to be taught and examined in English in future, the textbooks should have clear Myanmar – English glossary of terms or key vocabulary given in Myanmar and English in the text. Lessons can be taught using English and Myanmar to ensure concepts are understood. Further review of the curriculum would be needed to ensure there is no duplication and to avoid confusion in conceptual learning. In order to overcome the challenges that teachers and students in Grade 10-11 currently face in teaching and learning in English, the revision of the English curriculum Grade 6-12 could include a component focused on “English for Study Purposes” linked to the vocabulary and English usage the students require in other subjects.

93. A short Policy Note for consideration by the MOE could be drafted presenting the issues and options for and against teaching of English in secondary grades.

1.4.6 Review of Secondary Education Learner Assessment and Examinations system

94. Changes need to be made in student assessment criteria and associated MOE use of grade level and examination results as the performance measures of success for each school. At present teachers do not have the authority to assess students using their own approaches. Changes to the assessment system need to be linked to changes in the quality assurance system through which school inspectors and supervisors would support more formative and child centred classroom assessment and would discourage learning by memorisation. Teacher and school performance measures would need to focus on criteria other than examination results (UNESCO Phase 2).

95. **Findings – weaknesses with the present assessment system** An Assessment and Examinations Consultation Meeting was held on 01 August 2013 at the CESR Office bringing together assessment and examinations experts from Myanmar universities, representatives from the Board of Examinations, CESR and CDT team members and YIOE professors. There was general consensus that there should be a variety of methods used more flexibly to assess course work and higher level thinking skills of students. Consultation members identified the following weaknesses in the present assessment system:

- DEPT provides sample tests and that is what the teachers teach
- Tests are too time consuming and teachers do not understand the meaning of remedial teaching
- Assessment is too content focused and too stressful for students
- G11 students and teachers only focus on preparation for the Matriculation Examination.
- The same types of question are used each year for Matriculation Examination.
- Professors and teachers need to be willing to change and will need capacity development and support to implement new approaches to assessment
- Teachers need to be able to prepare good questions to assess application of learning
- High student : teacher ratio and limited resources makes student assessment difficult
- Teachers need to be trained how to teach students of different abilities and how to give constructive feedback to learners
- The school completion certificate and CPD relies on the honesty and integrity of teachers.

1.4.6.1 Analysis of the Matriculation Examination

96. **Findings - The Matriculation Examination results** for the 3 year period 2009/10 to 2011/2012 (Table 7) shows a year by year drop in the overall number of takers and a similar drop in the overall number of passers. In 2010/11 fewer Grade 11 students sat the Matriculation Examination and that year showed a higher percentage pass rate though the number of passers remained lower than the previous and following years. Taking the average for 2007/08 to 2011/12 compared with performance in 2011/12 there is a slight overall drop in the number of passers but an actual increase in the percentage of passers shown by a higher than average pass rate of 2 percentage points in 2011/12. There is a similar percentage increase in the total passers including grade 11, repeaters and external candidates, but a lower overall number of passers in 2011/12 than the average for the period.

Table 7 **Matriculation Pass Rates 2009/10, 2010/11, 2011/12 and average for 2007/08 to 20011/12 – G11 students, repeaters and takers**

	2009/10			2010/11			2011/12		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
G11 Enrolment									
Total enrolment	145,089	171,354	316,443	130,317	156,347	286,664	129,378	163,521	292,899
Among these, repeaters			*17,805*			*14,060*			*13,678*
Passers			108,338			106,785			107,910
Pass rate among G11 students			*34.2%*			*37.3%*			*36.8%*
Non-passers			208,105			179,879			184,989
2011 Matriculation Exam									
Takers	245,249	281,609	526,858	214,168	255,684	469,852	209,148	258,701	467,849
gender shares	*46.5%*	*53.5%*	*100.0%*	*45.6%*	*54.4%*	*100.0%*	*44.7%*	*55.3%*	*100.0%*
Takers vs. G11 enrolees									
Takers/G11 enrol.	169.0%	164.3%	166.5%	164.3%	163.5%	163.9%	161.7%	158.2%	159.7%
Takers-G11 enrol.	100160	110255	210415	83851	99337	183188	79770	95180	174950
Passers	78,054	105,935	183,989	69,612	95,395	165,007	66,668	94,110	160,778
gender shares	*82.1%*	*111.4%*	*193.6%*	*73.2%*	*100.4%*	*173.6%*	*70.1%*	*99.0%*	*169.1%*
Pass rates	*31.8%*	*37.6%*	*34.9%*	*32.5%*	*37.3%*	*35.1%*	*31.9%*	*36.4%*	*34.4%*

	AVERAGE for 2007/08 - 2011/12		
	Male	Female	Total
G11 Enrolment			
Total enrolment	142,460	168,708	311,168
Among these, repeaters			*15,892*
Passers			107,344
Pass rate among G11 students			*34.5%*
Non-passers			203,824
2011 Matriculation Exam			
Takers	233,903	270,232	504,135
gender shares	*46.4%*	*53.6%*	*100.0%*
Takers vs. G11 enrolees			
Takers/G11 enrol.	164.2%	160.2%	162.0%
Takers-G11 enrol.	91443	101523	192966
Passers	70,375	94,888	165,263
gender shares	*74.0%*	*99.8%*	*173.9%*
Pass rates	*30.1%*	*35.1%*	*32.8%*

97. **Findings - Matriculation Failure Rate** More than 60 percent of grade 11 students and resit students fail the Matriculation Examination under the present arrangements. This is not only a very inefficient system involving high numbers of students in repeating the examination one year later, but it is also very demoralising for those who fail. Simplistically the need for a candidate to achieve a score of 40% or more in all six subjects to pass means that a student could pass five subjects and fail only one but is required to re-sit all six subjects again one year later. This system fuels the private tuition market.

1.4.6.2 OPTIONS FOR REFORM OF THE ASSESSMENT AND EXAMINATION SYSTEM

98. **Recommendation – options for reform of the secondary school leaving examination** One possible option for reform of the grade 9 and grade 11(12) examination system in Myanmar:

(i) assessment based on a combination of course work and examination, with an initial 10% course work and 90% examination spilt in the first year of introduction, with the proportion of course work increased year by year to a 40:60 split; course work

assessed, using observable measures of key learning outcomes and a Score Card, project and Portfolio systems for example; and

(ii) an end of course examination at Grade 9 (Middle School Completion Exam) and an end of course examination at Grade 12 (High School Completion Exam). Both middle school and high school completion would be based on combined course work and MSCE and HSCE examination scores and both would need to be given full recognition for employment and further studies. The University entrance examination would be separated from the HSCE.[4]

99. **Recommendation – timeframe and process for reform of the secondary school leaving examination system** The process for reform of the secondary school leaving examination is highly technical and will require the support of international experts to develop a reliable and internationally recognised system. This process will take many years to fully develop and implement. Further more detailed recommendations and guidance are provided for reference in the CESR Phase 2 report of the Assessment and Examinations Expert.

100. **Recommendation – Options for Reform of the Matriculation Examination procedures (short term)** Several alternative options should be considered in the short term: (i) each subject should be considered as pass or fail on its own merit and there is no requirement to pass all six subjects to gain a school graduation certificate; (ii) a student is required to only re-sit the subject(s) that he or she fails; (iii) the re-sit examinations are held within 2 months of the first examination sitting rather than delaying for one year; (iv) students sit (national) school leaving examinations at the end of grade 9 and grade 11; (v) the school leaving examination at grade 11(12) is separated from the university and TVET entrance examination; (vi) an equivalent school leaving examination is developed for general technical high school students aligned to the middle and high school leaving examinations and to the TVET NSSA skills levels 1-4.

101. **Recommendation – Options for Reform of the Matriculation Examination procedures (longer term)** A panel of curriculum and examinations experts should be selected and provided with professional training in all aspects of examination systems. The Board of Examinations should be strengthened and its mandate reformed in line with the recommendations of the CESR Phase 2 recommendations of the Assessment and Examinations Expert.

1.4.6.3 Basic Learning Competencies / Competency Based Learning

102. **Competency Based Curriculum** In the CESR Phase 1 report it was recommended to "Update curriculum contents and revise the Basic Education curriculum to become Competency Based Curriculum". Basic Learning Competencies are defined for primary grade science in Myanmar. However there is limited understanding and capacity among teachers to implement a fully-fledged competency based curriculum, especially with the lack of teaching and learning resources. There is therefore a need to identify the best possible alternative methods that could be used to broaden the current subject or content-based curriculum to include a

[4] Denmark, Finland, Norway, Lao PDR and Hong Kong have a comparable three years upper secondary school program. Course duration, number of subjects studied and combination of internal and external assessment varies from country to country. For a summary see: OFSTED UK (2012) *International Comparisons in Senior Secondary Assessment Full Report: Table Supplement*. UK

realistic and achievable method assessing student competency. (see Annex 9 for definitions of competency).

103. Teacher's understanding of Basic Learning Competencies (BLC) is weak due to lack of training. BLC has not been successfully introduced into the primary school curriculum and therefore it is likely that similar implementation problems will be encountered if BLCs are introduced into the middle school. The capacity of teachers needs to be strengthened to enable them to teach students according to student ability.

104. Competency based assessment is based on the students' ability to demonstrate knowledge and understanding of course competencies through comprehensive summative performance assessments such as research projects, presentations, labs, writings, and tests. Homework, class participation, and formative quizzes are also very important in an assessment grading system because they inform the teachers on how the student is progressing with learning. They are designed to help the student determine when they will be ready for a summative assessment. The assessment system needs to recognize that not everyone learns at the same rate.

105. **Recommendations – Competency Based Learning** A strategy should be developed as one component of the Assessment and Examinations strategy to support the gradual introduction of a competency based approach to learning. This would include (i) clear definition of competency based learning included in the curriculum framework; (ii) identification of some targeted and suitable topics in the new curriculum; (iii) pedagogical approach, activities and exercises described in the teachers manual ; (iv) a selected number of approaches to assessment included that would support competency based learning. Capacity development of teachers, head teachers, teacher educators, curriculum developers and quality assurance teams will be needed.

1.4.6.4 Chapter End Tests and Semester Tests

106. Memorisation is the approach to teaching that is widely used throughout the Myanmar secondary school system driven by the assessment system which requires students to reproduce subject content in tests and examinations. There is no structured approach to classroom assessment of student attitude to learning and participation in group work, and no assessment of course work. New policy instructions were issued in 2013/14 for all G5 and G9 students to sit semester tests. Chapter End Tests and Semester Tests are pencil and paper assessments.

107. Comments from teachers:

- Students are only tested on what is in the textbook. Students find it challenging if they are tested on anything that is not in the textbooks
- Teachers have to follow the guidelines to meet the district level inspection requirement
- Parents put pressure on children to learn by heart – there is too much homework and testing is stressful to students
- Semester tests at middle school are not conducted in every district but this is determined by the TEO

108. **Recommendation – reform of school based assessment** A common assessment strategy is needed for middle schools and high schools. Stakeholders from schools, teacher education and DEPT discussed and shared various alternative methods of assessment including greater use of open questions in class teaching and in tests. Assessment should be split between course work (40%) and end of semester tests or examinations (60%). The course work

component should include formative assessment with feedback and remediation for students. Course work can include research based projects, score cards and portfolio. Teachers will need in-service professional development and support to improve their competency in using these approaches. A system should be introduced to moderate assessment between schools on a selective sample basis.

1.4.6.5 School Leaving Certificate / School Graduation Certificate

109. Under the present restructuring Myanmar has the opportunity in the near term to move to 9 years of quality compulsory education. Regional examples where this reform has been implemented include PCR Lao and Philippines. At present approximately 20% of all primary graduates do not proceed to secondary school. A priority for the future must be to encourage all students to enter middle school and complete Grade 9. Consideration needs to be given to revising and implementing a curriculum that is both relevant and motivating for students. At the same time, greater recognition and status must be given by all sectors of society to the value of middle school graduation in future and to recognition and certification of learning achievement at grade 9.

110. Middle school and high school leaving certificates should be awarded for all students who complete the grades. The certificates should be a recognised document for further studies and employment clearly describing individual student achievement differentiated by subjects, individual aptitudes and attitude to learning, participation in the life of the school and interests outside of school. This will support and reflect the overall intention of the education system to nurture the all-round balanced development of each individual.

1.4.7 Recommendations for Reform of the Assessment and Examination System

111. Recommendations presented by participants in the assessment and examinations consultation (01 Aug 2013)

- Strengthen Examinations Board and upgrade to include technical skills in examinations and assessment
- More training and support for more effective implementation of BLCs including training in setting of application questions
- Change examinations and classroom assessment methods – the CET controls what teachers teach Instead of Chapter End Tests (CET) teach and assess different skills each week.
- Give teachers more autonomy to teach and assess critical thinking skills
- Reduce the emphasis on school performance measured by school and matriculation pass rates; identify other measures of quality in school performance
- Use three semester tests each year to test the whole curriculum
- Lesson plans should include Content, Objectives, teaching and learning methodology and student assessment
- Assessment of Grade 5 and Grade 9 basic literacy and numeracy is needed (national assessment).
- Teachers need formative assessment methodology to assess self-learning, critical thinking, creativity, problem solving and ICT skills – what evidence can be used for assessment of these skills?
- Strengthen the value and status of the Basic Education Completion Certificate.

1.4.8 Recommendations for Phase 3 Sector Planning to support the Reform of the Secondary Education Curriculum, with indicative timeframe.

112. Curriculum policy is required in the form of a curriculum framework as a foundation for development of new content, teaching methods and assessment methods. (Q2 2014)

113. Capacity development of all key education professionals involved in implementation of the curriculum reform:

(i) Curriculum experts will need to have the capacity and authority to develop the Curriculum Framework for KG-G12. (Q1 2014)

(ii) Curriculum subject specialists and curriculum writers will need to be familiarised with the curriculum framework and be competent in the development of the new curriculum content, pedagogy and assessment approaches. (2014-2020)

(iii) Head teachers, DEOs and TEOs will need to be able to support teachers in the implementation of the new curriculum. (2015-2020)

(iv) Teacher educators will need to upgrade their knowledge, skills and competencies to develop and deliver the new teacher training curriculum, aligned to the new secondary school curriculum. This will include institution-based teacher educators in pre-service teacher training and a team of skilled trainers to support in-service and CPD for the new curriculum. (2014-2020)

1.4.9 Improved Quality of Secondary Education

114. **Findings – factors affection quality of secondary education** Some broad factors that affect the quality of secondary education are identified in the CESR Phase 2 secondary education access, quality and management report. An increase in student learning achievement may be identified as an overarching indicator of quality improvement. Some of the root causes of lack of learning achievement are identified as students lack of interest in the curriculum that is offered in secondary schools possibly due to lack of relevance to their lives; issues relating to quality of teaching; parental and societal perceptions of the value of secondary education; and impacts of the assessment and examination system on learning achievement including impact on transition, retention and completion of secondary education.

ANNEX 1a SUMMARY OF RECOMMENDATIONS – CURRICULUM, TEXTBOOKS AND LEARNER ASSESSMENT

115. **Recommendation – Curriculum Review and Monitoring Instrument** A procedure for systematic and regular 3-5 year review of the curriculum is needed. The Curriculum Analysis Matrix (Annex 4) could be used as a review and monitoring tool in future review cycles as it enables systematic and consistent analysis of each subject and grade.

116. **Recommendation – Development of the new secondary curriculum subject content** Technical assistance will be needed for capacity development of the CDT and curriculum writing teams with access to appropriate resources, including computers and reference materials, for development of the new secondary curriculum content.

117. **Recommendation – introduction of new pedagogical and assessment practice in secondary schools to support the new curriculum** The new curriculum will be designed to provide teachers and students with guidance and examples of activities that support and reinforce active, student centred teaching and learning, with opportunity for development of higher level thinking skills through problem solving and critical thinking activities. A modification of the child-centred approach (CCA) developed for primary school students should be considered for secondary school grades. The assessment methods will also reflect and support this approach. Teachers, head teachers, teacher educators and quality assurance teams will need to be familiarised with these approaches and parents will need to be helped to understand and appreciate the new approach to learning. A phased and graduated approach may be designed to enable a steady transition away from 100% rote learning and assessment to more participatory student centred approaches. Technical assistance and on-going capacity development will be needed. The capacity development should be taken into the schools and incorporated into school improvement and related CPD activities. Schools that are able to actively incorporate the new pedagogical and assessment practices should be used as demonstration models for other schools to observe and experience.

118. **Recommendation – decongestion of the curriculum** Where curriculum topics are overloaded the curriculum development team should consider extending and re-allocating some content into the Grade 12 curriculum. In order to address the widely spoken concern of teachers regarding overload of the present secondary curriculum, emphasis must be given to decongesting the current curriculum with only minimal new content added where there is outdated information or gaps in the existing content.

119. **Recommendation – Grade 6-9 proposed teaching hours (for further discussion)** The allocation of teaching hours for the middle school curriculum is based on alignment with the old curriculum for all subjects except Social Studies (geography) and Social Studies (history) both of which have been increased to align with other core subjects. This draft is prepared for discussion and further revisions as the curriculum structure is agreed. The draft structure includes some modules which reflect incorporation of 21st century skills and basic vocational skills for employment.

120. In this proposed draft version the existing middle school teaching hours would be increased from 923 per year to 1080 hours per year; increased from 35 to 40 periods per week and increased from 26.25 hours to 30 hours per week. This equates to an additional 45 minute period each day or 5 additional periods each week for Grade 6-9 students, based on the existing 36 weeks per academic year.

121. **Recommendations – Grade 10-12 (Proposal 1) indicative teaching hours (for further discussion)** The allocation of teaching hours for the high school curriculum (Proposal 1) is based on alignment with the old curriculum with alignment of teaching time for each core subject (135 hours per year), electives (54 hours per year) and with other skills subjects (13.5

or 27 hours per year). This draft is prepared for discussion and further revisions as the curriculum structure is agreed. The draft structure includes 6 core subjects in the science or the arts stream studied through grades 10-12 with increased teaching hours in Grade 12 for academic specialisation by reducing vocational and co-curriculum teaching hours. The overall teaching hours are increased from 923 per year in the existing middle school curriculum to 1080 hours per year in this proposed draft version. This equates to an additional period each day or 5 additional periods each week for Grade 10-12 students, based on the existing 36 weeks per academic year.

122. **Recommendations – Grade 10-12 (Proposal 2) indicative teaching hours (for further discussion)** The allocation of teaching hours for the high school curriculum (Proposal 2) is based on alignment with the old curriculum with alignment of teaching time for each core subject (135 hours per year), electives (54 hours per year) and with other skills subjects (13.5 or 27 hours per year). This draft is prepared for discussion and further revisions as the curriculum structure is agreed. The draft structure includes 6 core subjects in the science or the arts stream studied through grades 10 and 11 with one core subject changed to an elective in Grade 12 with reduced instructional hours, and an increase in teaching hours for the chosen 5 core subjects for academic specialisation in Grade 12. Vocational and co-curriculum teaching hours are reduced in Grade 2 as in Proposal 1. The overall teaching hours are increased from 923 per year in the existing middle school curriculum to 1080 hours per year in this proposed draft version. This equates to an additional period each day or 5 additional periods each week for Grade 10-12 students, based on the existing 36 weeks per academic year.

123. **Recommendation – Core and Co-Curriculum Teaching Hours** A monitoring mechanism is needed within the quality assurance system as part of school supervision and inspection visits to check and ensure that the intended instructional hours for the core and co-curriculum subjects are adhered to in all secondary schools.

124. **Recommendation – Grade 10-12 Science and Arts streams** Further analysis is needed to understand the choices and expectations of Grade 10 and 11 students. Provision of career guidance and counselling at middle school and high school would ensure that streaming into science and arts subjects is more closely matched to student ability and interests, and that students have a clear understanding of the possible career and further studies pathways and options. (see also related recommendations for linking high school and general technical high school grade 10-12, section 1.4.4.7)

125. **Recommendations – 21st century skills** In order for teachers and students to be able to take on new content under the umbrella heading of 21st century skills it will be necessary to have relevant new content that will be of value and interest to students. Capacity development will be needed for teachers, head teachers, curriculum developers, teacher educators, parents and employers. It is recommended that 21st century skills should be interpreted in relation to global, regional, national and sub-national issues and debate and designed to enable students to consider such topics through application of critical thinking, problem-solving and communication skills. It is proposed that elements of 21st century skills are incorporated into core subjects as cross-cutting themes and modules and not as a separate subject. 21st century skills will need to be defined and described in detail as part of the curriculum framework. Resources will be needed to support teachers and students in this new area of study.

126. **Recommendation – functioning and curriculum of pre-vocational schools**[3] In the draft proposed new curriculum structure (Table 4, 5 and 6) vocational skills is included in the middle school curriculum, not as traditional workshop skills, but through vocational theory, soft skills and application of knowledge as a preparation for the transition from school to work. In the present Myanmar context it is neither feasible nor affordable to include workshop skills in

middle or high schools which would overly stretch an already loaded system. Rather it is recommended that all subjects should be made more relevant and applied to skills and knowledge used in the world of work.

127. **Recommendation – Strengthening of technical pathways in Secondary Education** In order for Myanmar to strengthen its work force with the technical and vocational skills that will be required and increasingly in demand in future, and to address future rising unemployment and under-employment, a strategy is needed for raising the status and quality of pre-vocational education in general technical high school grades 10-12. The curriculum in general technical high schools should be developed in parallel with the high school curriculum development. The new curriculum should be strongly focused on local context and relevance to career and employment opportunities. Grade 12 graduates from general technical high schools would complete grade 12 with a high school leaving certificate and a level 1-4 technical skills qualification.

128. **Recommendation – Pre-Vocational Curriculum**[2] A review of the general technical high school Grade 10-11 curriculum should be undertaken in parallel with the High School Grade 10 and 11 curriculum review to align to the new high school Grade 10-12 curriculum and examinations. Alongside the pre-vocational curriculum review and revision it is recommended that a program for career guidance and counselling provision in middle and high schools should be introduced to enable Grade 6-12 students and their parents to make timely and well-informed study and career choices. Other recommendations for strengthening pre-vocational education are:

- To standardise the criteria for promotion from grade 5 to 6, from grade 9 to 10 and grade 12 to Higher Education and TVET to include assessment of attitude, knowledge, skills, aptitude and interest;
- To identify vocational skills to be introduced in middle schools, high schools and General Technical High School reflecting local contexts: for example local agriculture sector, small business finances, career pathways, and basic workplace skills..

129. **Recommendations – English as the Language of Instruction in Secondary Schools and Institutes of Education**. If Grade 10-12 mathematics and science subjects are to be taught and examined in English in future, the textbooks should have clear Myanmar – English glossary of terms or key vocabulary given in Myanmar and English in the text. Lessons can be taught using English and Myanmar to ensure concepts are understood. Further review of the curriculum would be needed to ensure there is no duplication and to avoid confusion in conceptual learning. In order to overcome the challenges that teachers and students in Grade 10-11 currently face in teaching and learning in English, the revision of the English curriculum Grade 6-12 could include a component focused on “English for Study Purposes” linked to the vocabulary and English usage the students require in other subjects.

130. **Recommendation – options for reform of the secondary school leaving examination** One possible option for reform of the grade 9 and grade 11(12) examination system in Myanmar:

(i) assessment based on a combination of course work and examination, with an initial 10% course work and 90% examination spilt in the first year of introduction, with the proportion of course work increased year by year to a 40:60 split; course work assessed, using observable measures of key learning outcomes and a Score Card, project and Portfolio systems for example; and

(ii) an end of course examination at Grade 9 (Middle School Completion Exam) and an end of course examination at Grade 12 (High School Completion Exam). Both middle school and high school completion would be based on combined course work and MSCE and HSCE examination scores and both would need to be given full recognition

for employment and further studies. The University entrance examination would be separated from the HSCE.[5]

131. **Recommendation – timeframe and process for reform of the secondary school leaving examination system** The process for reform of the secondary school leaving examination is highly technical and will require the support of international experts to develop a reliable and internationally recognised system. This process will take many years to fully develop and implement. Further more detailed recommendations and guidance are provided for reference in the CESR Phase 2 report of the Assessment and Examinations Expert.

132. **Recommendation – Options for Reform of the Matriculation Examination procedures (short term)** Several alternative options should be considered in the short term: (i) each subject should be considered as pass or fail on its own merit and there is no requirement to pass all six subjects to gain a school graduation certificate; (ii) a student is required to only re-sit the subject(s) that he or she fails; (iii) the re-sit examinations are held within 2 months of the first examination sitting rather than delaying for one year; (iv) students sit (national) school leaving examinations at the end of grade 9 and grade 11; (v) the school leaving examination at grade 11(12) is separated from the university and TVET entrance examination; (vi) an equivalent school leaving examination is developed for pre-vocational school students aligned to the middle and high school leaving examinations and to the TVET NSSA skills levels 1-4.

133. **Recommendation – Options for Reform of the Matriculation Examination procedures (longer term)** A panel of curriculum and examinations experts should be selected including teachers, teacher educators, assessment and examinations specialists and senior academics. They should be provided with professional training in all aspects of examination systems. The Board of Examinations should be strengthened and its mandate reformed in line with the recommendations of the CESR Phase 2 recommendations of the Assessment and Examinations Expert.

134. **Recommendations – Competency Based Learning** A strategy should be developed as one component of the Assessment and Examinations strategy to support the gradual introduction of a competency based approach to learning. This would include (i) clear definition of competency based learning included in the curriculum framework; (ii) identification of some targeted and suitable topics in the new curriculum; (iii) pedagogical approach, activities and exercises described in the teachers manual ; (iv) a selected number of approaches to assessment included that would support competency based learning. Capacity development of teachers, head teachers, teacher educators, curriculum developers and quality assurance teams will be needed.

135. **Recommendation – reform of school based assessment** A common assessment strategy is needed for middle schools and high schools. Stakeholders from schools, teacher education and DEPT discussed and shared various alternative methods of assessment including greater use of open questions in class teaching and in tests. Assessment should be split between

[5] Denmark, Finland, Norway, Lao PDR and Hong Kong have a comparable three years upper secondary school program. Course duration, number of subjects studied and combination of internal and external assessment varies from country to country. For a summary see: International Comparisons in Senior Secondary Assessment Full Report: Table Supplement. OFSTED UK, 2012.

course work (40%) and end of semester tests or examinations (60%). The course work component should include formative assessment with feedback and remediation for students. Course work can include research based projects, score cards and portfolio. Teachers will need in-service professional development and support to improve their competency in using these approaches. A system should be introduced to moderate assessment between schools on a selective sample basis.

136. Recommendations presented by participants in the assessment and examinations consultation (01 Aug 2013)

(i) Strengthen Examinations Board and upgrade to include technical skills in examinations and assessment

(ii) More training and support for more effective implementation of BLCs including training in setting of application questions

(iii) Change examinations and classroom assessment methods - the CET controls what teachers teach Instead of Chapter End Tests (CET) teach and assess different skills each week.

(iv) Give teachers more autonomy to teach and assess critical thinking skills

(v) Reduce the emphasis on school performance measured by school and matriculation pass rates; identify other measures of quality in school performance

(vi) Use three semester tests each year to test the whole curriculum

(vii) Lesson plans should include Content, Objectives, teaching and learning methodology and student assessment

(viii) Assessment of Grade 5 and Grade 9 basic literacy and numeracy is needed (national assessment).

(ix) Teachers need formative assessment methodology to assess self-learning, critical thinking, creativity, problem solving and ICT skills - what evidence can be used for assessment of these skills?

(x) Strengthen the value and status of the Basic Education Completion Certificate.

ANNEX 1b SECONDARY CURRICULUM REFORM – IMPLEMENTATION TIMEFRAME

Recommendations for Phase 3 Sector Planning to support the Reform of the Secondary Education Curriculum

137. **Curriculum policy** is required in the form of a curriculum framework as a foundation for development of new content, teaching methods and assessment methods. (Q2 2014)

138. **Capacity development** of all key education professionals involved in implementation of the curriculum reform:

    (i) Curriculum experts will need to have the capacity and authority to develop the Curriculum Framework for KG-G12. (Q1 2014)

    (ii) Curriculum subject specialists and curriculum writers will need to be familiarised with the curriculum framework and be competent in the development of the new curriculum content, pedagogy and assessment approaches. (2014-2020)

    (iii) Head teachers, DEOs and TEOs will need to be able to support teachers in the implementation of the new curriculum. (2015-2020)

    (iv) Teacher educators will need to upgrade their knowledge, skills and competencies to develop and deliver the new teacher training curriculum, aligned to the new secondary school curriculum. This will include institution-based teacher educators in pre-service teacher training and a team of skilled trainers to support in-service and CPD for the new curriculum. (2014-2020)

139. **Phased Rollout of the New Secondary School Curriculum** Refer to the timeframe and tasks detailed ANNEX 5 PHASED ROLL-OUT OF NEW CURRICULUM (PROPOSED)

"DRAFT – NOT FOR CITATION OR DISTRIBUTION"

Myanmar Comprehensive Education Sector Review (CESR)

SECONDARY EDUCATION SUBSECTOR

CURRICULUM FRAMEWORK

"DRAFT – February 2014"

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1. GENERAL PROVISIONS

1.1 Vision for Education in Myanmar (pending updated version)

Vision: **To create an education system that will generate a learning society capable of facing the challenges of the Knowledge Age**

The four national social objectives are:

i. Uplift of the morale and morality of the nation;
ii. Uplift of national prestige, integrity, preservation and safeguarding of national character;
iii. Uplift of dynamism of patriotic spirit; and
iv. Uplift of health, fitness and educational standards of the nation.

The main educational goals are to:

- Enable every individual to acquire basic education;
- Base education on the rising of moral standards;
- Develop the knowledge, including scientific and technical know-how needed for nation-building;
- Train technicians, skilled workers and proficient intellectuals with practical knowledge who are loyal to the State and will contribute to nation-building endeavours;
- Train the citizens so that they will achieve all-round development;
- Allow all those who possess the intellectual ability, calibre and industriousness to acquire university education.

According to the Basic Education Law (1973) (pending updated version),, the main objectives of basic education are to:

- Enable every citizen of the Union of Myanmar to become a physical or mental worker well equipped with a basic education, good health and moral character;
- Lay the foundations for vocational education for the benefit of the Union of Myanmar;
- Give priority to the teaching of science capable of strengthening and developing the productive forces;
- Give priority to the teaching of arts capable of preserving and developing the culture, fine arts and literature of the State;
- Lay a firm and sound educational foundation base for the pursuance of university education.

This document sets out the Curriculum Framework (draft) for the national secondary education curriculum for middle school grades 6 to 9 and high school grades 10 to 12. The Secondary Curriculum Framework includes:

- Information about the principles, the overall objectives of the secondary school curriculum and the curriculum objectives for each subject and grade level;
- Learning areas and teaching hours in the secondary curriculum;
- Teaching and learning methodology to be used in all secondary schools in delivery of the curriculum
- Assessment methods and examinations to be used in all secondary schools for measuring of student learning outcomes through formative and summative student assessment, and school performance measures through quality assurance and child friendly schools indicators.

1.2 PRINCIPLES

Guiding Principles for Basic Education Curriculum in Myanmar

Twelve guiding principles to be employed in the design and development of Basic Education Curriculum in Myanmar are as follows:

Principle (1): All-round, Balanced Development

Students must be nurtured with focus on all-round, balanced development especially in terms of intellectual, physical, social, moral, emotional and aesthetic dimensions.

Principle (2): Good Citizenship

Students must be nurtured to become **good citizens** both at the national level and at the global level.

Principle (3): 21st Century Skills

21st century skills must be developed in order to pave the way for the development of Myanmar society both at the national level and at the global level. Thus, these skills and themes become an integral part of the school curriculum and are to be designed for learning (i) through integrated study in all related areas and (ii) through specialised study as a separate area of learning.

Principle (4): Notion of Completion in Itself

Students must be well developed in terms of necessary knowledge, skills and attitudes as an evidence of **completion in itself** at the end of each level of the three levels of Basic Education, ie Primary, Middle and High School levels

Principle (5): Preparation for Higher Learning

Students must have necessary foundational knowledge, skills and attitudes for **higher learning** that can be pursued either in the form of **academic learning** or **vocational learning**.

Principle (6): Balance in Academic Literacy

A balance in academic literacy is to be achieved through promotion of academic development in both science and arts areas of learning.

Principle (7): Appreciation of All Cultures, Customs and Traditions

Students must be nurtured to develop an **appreciation of all cultures, customs and traditions of all national groups** at the national level and **all other nations** at the global level.

Principle (8): Medium of Instruction

The Myanmar language which is the official language of the Republic of the Union of Myanmar must be the **medium of instruction** for use in all Basic Education Schools.

Principle (9): Languages of National Groups

One common language must be selected / chosen in teach State and textbooks to teach that common language must be prepared by the curriculum developers / responsible education personnel in each State. These national language textbooks need to be approved by the Basic Education Curriculum, Syllabus and Textbook Committee. Decisions regarding how to and when to use these national language textbooks are to be made at State level.

Principle (10): Preparation for One's life in Myanmar Society

Students must have necessary learning experiences as **a preparation for their lives** in Myanmar society.

Principle (11): Service to Family, School, Community and Society

Students must have necessary opportunities to develop the notion of **service to family, school, community and society.**

Principle (12): Peaceful Coexistence and Living in Harmony

The notion of **Peaceful Coexistence** and **Living in Harmony and Conflict Resolution Skills** must be developed in students at all levels of society - community, national and global.

1.3 OUTCOMES OF SECONDARY EDUCATION

Secondary education plays a vital role in preparing young people to take their place in society contributing to the future skilled workforce and able to actively participate in further learning. As responsible citizens they will be well equipped with right values, attitudes and skills for the newly emerging democratic society and modern economy.

All schools will provide equitable opportunity for children of school age to access secondary education that is relevant and of good quality. Achievement of basic functional literacy and numeracy skills will be a foundational standard for all schools.

1.3.1 The Four Pillars of Learning (for discussion)

<table>
<tr><th colspan="4">FOUR PILLARS OF LEARNING
Skills for the 21st Century</th></tr>
<tr><td>Foundational Skills</td><td>Skills for Learning</td><td>Skills for Living Together</td><td>Skills for Work</td></tr>
<tr><td>Literacy Skills
Numeracy Skills
ICT Skills</td><td>Cognitive Skills
Problem Solving Skills
Critical Thinking Skills
Academic study skills</td><td>Social Skills
Personal Skills
Peace Building Skills
Communication Skills</td><td>Vocational Skills
Employability (Soft) Skills
Technical Skills</td></tr>
<tr><td colspan="3">Continuity from KG-12 through to post-secondary education</td><td>Focus for high school and post-secondary</td></tr>
</table>

NOTE: These generic skills can be expanded to include a broad range of 21st century skills (see later sections)

The four pillars of learning capture the essential skills that young people should develop through their secondary school education. These skills are not taught separately and without context but are embedded in the teaching and learning approaches and curriculum content. Indicators of skills competencies will be incorporated into future methods of student assessment. Students should be familiarised with the criteria that may be used to demonstrate their skills competency.They should be assessed by teachers as part of the student CPR checklist. Throughout the secondary school grades students will develop their capacity to apply skills and knowledge acquired in in the classroom and in the home.The foundational skills of literacy, numeracy and ICT are the basic learning outcomes that all children should achieve on completion on general education to equip them for life.

Students who graduate from secondary school in the 2020's and beyond will need the skills and knowledge to face the socio-economic challenges of the 21st century. They will be the new generation who can manage their lives peacefully, well prepared and ready to work. After graduating from lower secondary school they should be equipped with a set of basic skills and a large number of applied skills.

For lower secondary level

- Fundamental skills of literacy (Myanmar/ethnic language) and numeracy
- Critical thinking and problem solving
- Creative thinking
- Communication and collaboration
- Vocational and skills for life career
- Social skills (self-awareness, interpersonal relationship, coping with stress and emotion, and responsibility for good citizenship)
- Basic ICT skills

For upper secondary level

All the above skills and, in addition, creative and innovation skills, written skills of both Myanmar and English languages, leadership and responsibility for good citizenship.

1.3.2 Definitions of Skills

Literacy Skills: The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines literacy as the "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society".

Numeracy Skills: the ability to use the numbers in counting and calculation, to reason and to apply simple numerical concepts. A numerically literate person can manage and respond to the mathematical demands of life.

ICT Skills: the ability to use computers and know the functions of information and communication technologies. Digital literacy is a relatively stable set of knowledge and skills that are essential for participation in any modern, knowledge-based society. Digital competence encompasses the knowledge and skills required to use ICT competently in a particular social, educational, or work context.OECD(Organisation for Economic Cooperation and Development) identifies two categories of skills and competencies specific to ICT:

- ICT functional skills, that includes skills relevant to mastering the use of different ICT applications;
- ICT skills for learning, which include skills that combine both cognitive abilities or higher-order thinking skills with functional skills for the use and management of ICT applications.

21st Century Skills: "Initiatives on the teaching and assessment of 21st century skills originate in the widely-held belief shared by several interested groups - teachers, educational researchers, policy makers, politicians, employers - that the current century will demand a very different set of skills and competencies from people in order for them to function effectively at work, as citizens and in their leisure time." (OECD Working Paper 41, 2009)

A challenge for countries such as Myanmar, embarking on a process of curriculum reform, is to identify the new skills and knowledge that will be most appropriate for young people who will be graduating from school in the 2020's and beyond.

(i) Changes in the socio-economic environment combined with introduction of new technologies and democratic change are factors that will need to be considered in the process of reforming the Myanmar secondary school curriculum.

(ii) New forms of socialisation and associated changes in social values can be observed among the youth of today.

(iii) The skills and competencies needed for entry into a rapidly changing labor market are directly linked to new and emerging technologies based on knowledge and information management systems.

A comprehensive set of skills definitions is presented in Annex 3.

1.4 The Structure of the Education System

1.4.1 School Structure

The secondary school system in Myanmar is structured into middle school grades 6 to 9 and high school grades 10 to 11. Under the planned restructuring of the education system (2015-2021) high schools will be expanded to include grade 12 in SY 2020/21 and pre-vocational high schools will be re-introduced (See Diagram 3 - for further discussion). The Myanmar secondary school curriculum is taught in all government, monastic and private schools.

1.4.2 Learning Pathways

The secondary school system provides learning opportunities for all students including science, arts and pre-vocational skills subject options for students with different academic strengths, aptitudes and interests. The personal and career choices that students make will vary from one to another and over time. It will be of benefit to all students to provide a broad based learning through middle school with subject specialisation increasing as students' progress into high school and preparation for the world of work or for further studies in TVET institutions or university.

Diagram 3a **Curriculum Structure for alignment of secondary education, higher education and TVET education (for further discussion)**

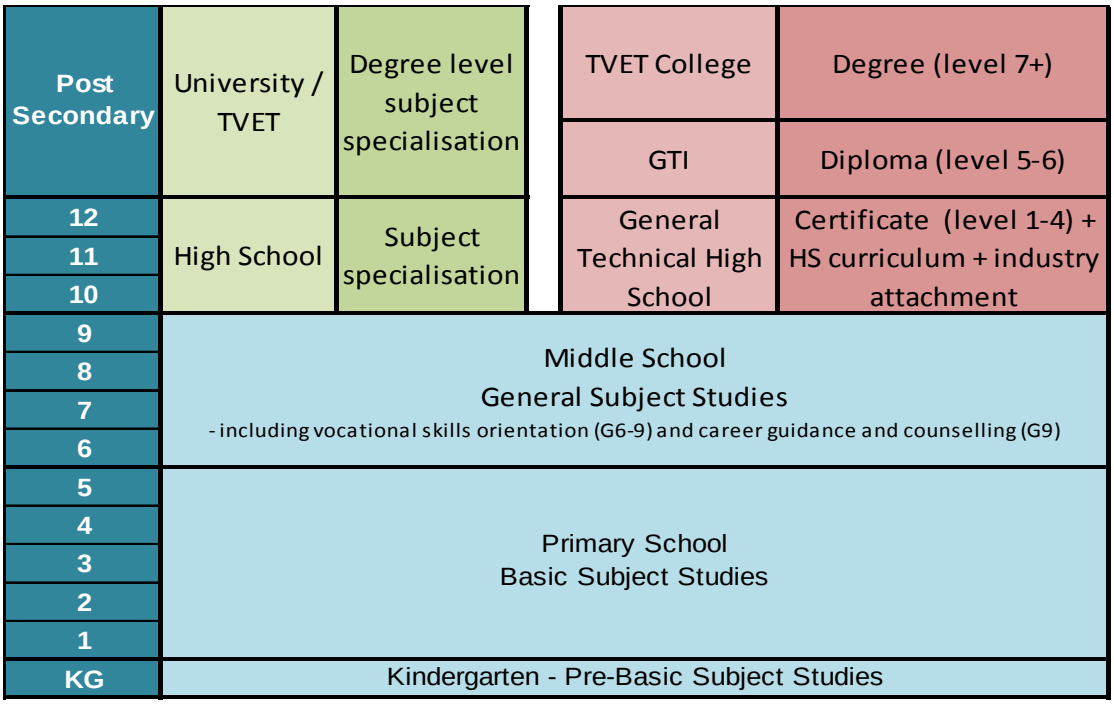
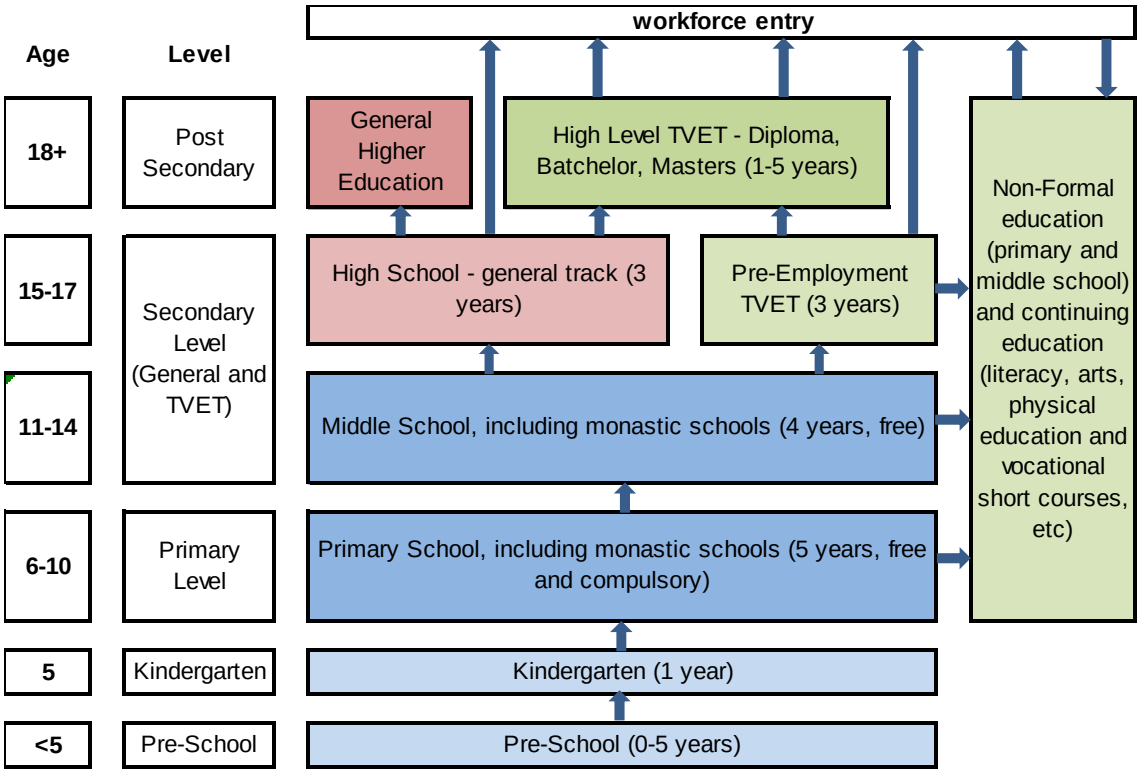


Diagram 3b **General Education Structure for alignment of secondary education, higher education, TVET education and pathways into work (for further discussion)**



1.4.3 Middle School Curriculum Overview

The middle school curriculum is designed to ensure continuity in learning, with progression from basic subject content areas studied in primary school to further develop skills and knowledge in general secondary subjects. The core subjects studied in middle school will prepare students for subject specialisation in high school. For those students who elect to exit education at the end of middle school they will be equipped with skills for employment in the labour market. A balance between core curriculum and co-curriculum subjects will be emphasised to ensure all-round development of intellectual, social, physical, moral, emotional and aesthetic dimensions. The development of higher level thinking skills will be incorporated into teaching and learning approaches across all subjects, encouraging critical thinking and development of problem solving skills.

1.4.4 High School Curriculum Overview

The high school curriculum will build on the skills and knowledge of the middle school curriculum. Students will take up subject specialisations according to aptitude and competency as a foundation for academic study, for higher level technical and vocational skills development or for entry into the labour market as high school graduates.

1.4.5 Pre-Vocational School Curriculum[6] Overview

In order for Myanmar to strengthen its work force with the technical and vocational skills that will be required and increasingly in demand in future, and to address future rising unemployment and under-employment a pre-vocational curriculum will be offered in secondary schools.

The pre-vocational middle school curriculum will be strongly focused on local context and relevance to career and employment opportunities in each state and region. Vocational skills are included in the middle school curriculum, not as traditional workshop skills, but through vocational theory, soft skills and application of knowledge as a preparation for the transition from school to work. In the present Myanmar context it is neither feasible nor affordable to include workshop skills in middle or high schools which would overly stretch an already loaded system. Rather it is recommended that all subjects should be made more relevant and applied to skills and knowledge used in the world of work.

Pre-vocational education for grade 10-12 will be strengthened under the education restructuring plan (2015-2021) to upgrade the curriculum and career opportunity for middle and high school students as shown in Diagram 3a (for further discussion),to better align with general secondary education, general technical high school, post-secondary education and employment opportunity.

[6] Note that, unless otherwise noted, “pre-vocational curriculum” is used herein to refer to elements to be included in general secondary education curriculum to enhance relevance and give foundational preparations for the world of work eg teaching financial literacy within the mathematics curriculum. This is distinct from the concept of pre-vocational schools.

The general technical high school curriculum will be developed in parallel with the high school curriculum.

1.4.5.1 Career guidance and counselling

A program for career guidance and counselling provision in middle and high schools will be provided to enable Grade 6-12 students and their parents to make timely and well-informed study and career choices. The career guidance and counselling program will be incorporated into the vocational skills curriculum and will give emphasis to employment and career paths related to the local and regional context.

1.5 Secondary Education Curriculum Structure and Learning Areas: subjects and instructional hours(for further discussion)

There are 36 weeks in the secondary school year and a total of 1080 instructional hours per year divided into 40 x 45 minute periods per week.

1.5.1 Middle School Curriculum Structure: subjects and instructional hours

The middle school curriculum consists of six core subjects and six co-curriculum subjects. The six core curriculum subjects are Myanmar, English, Mathematics, General Science, Social Studies (Geography) and Social Studies (History) allocated a total of 30 periods per week. The six co-curriculum subjects are allocated 10 periods per week, sub-divided into five 21st century skills subjects and one vocational skills subject. Within each of the core and co-curricular subjects some modules are identified as separate sub-components to be incorporated into the relevant core area of learning, for example environmental sustainability is a module to be included in general science, and economic literacy is a sub-component incorporated in the mathematics curriculum.

MIDDLE SCHOOL CORE AREAS OF LEARNING	Grades 6-9		MODULES
	hours per year	periods per week	
Myanmar	135	5	
English	162	6	
Mathematics	189	7	Economic Literacy
General Science	108	4	Environmental Literacy (Environmental Sustainability)
Social Studies (Geography)	108	4	Social Studies (Myanmar: a land of different national groups)
Social Studies (History)	108	4	
21st CENTURY SKILLS			
Life Skills	27	1	Health Literacy
Physical Education	54	2	
Moral and Civic Education	27	1	Moral Literacy
	27	1	Citizenship Education
Aesthetic Literacy (Music and Art)	27	1	
Service to Classroom, School, Community and Society	13.5	0.5	
VOCATIONAL SKILLS			
Agriculture	27	1	
	27	1	Computer Skills
	13.5	0.5	Career Skills
	13.5	0.5	Learning and Innovation Skills
	13.5	0.5	Home Economics
	1080	**40**	

1.5.2 High School Curriculum Structure: subjects and instructional hours

The high school curriculum is divided into a science stream and an arts stream.

1.5.2.1 High School Science Stream

The high school science curriculum consists of six core subjects, plus three arts-based social studies electives of which students select one, and seven co-curriculum subjects. The core subjects are Myanmar, English, Mathematics, Physics, Chemistry and Biology allocated five periods per week in grades 10 and 11 and six periods per week in grade 12. The social studies elective can be selected from geography, history or economics with a country and regional focus in grade 10 and 11 broadening to a global world focus in grade 12. The elective is studied for two periods per week. Six of the seven co-curriculum subjects are the same as those studied in middle school with the addition of Information, Media and Technology for high school students. In grade 10 and 11 all co-curriculum subjects are studied for a total of eight periods per week. Of the co-curriculum subjects, only Information, Media is studied in grade 12, and that for two periods per week.

HIGH SCHOOL CORE CURRICULUM SCIENCE STREAM	Grade 10-11		Grade 12		MODULES
	Hours per year	Periods per week	Hours per year	Periods per week	
Myanmar	135	5	162	6	
English	135	5	162	6	
Mathematics	135	5	162	6	Economic Literacy
Physics	135	5	162	6	
Chemistry	135	5	162	6	Environmental Literacy (Environmental Sustainability)
Biology	135	5	162	6	
ELECTIVES (select 1)					
Social Studies (Geography)	54	2			
Social Studies (People. Places and Environment)			54	2	
Social Studies (History: Myanmar and World)	54	2			
Social Studies (Global Development)			54	2	
Social Studies (Economics)	54	2			
Social Studies (Global Economy)			54	2	
21st CENTURY SKILLS					
Information, Media and Technology	27	1	54	2	
Life Skills	13.5	0.5			
Physical Education	27	1			Health Literacy
Aesthetic Literacy (Music and Art)	27	1			
Moral and Civic Education	13.5	0.5			Moral Literacy
	13.5	0.5			Citizenship Skills
Service to School, Community and Society	13.5	0.5			
VOCATIONAL SKILLS					
Agriculture	27	1			
	13.5	0.5			Career Skills
	13.5	0.5			Learning and Innovation Skills
	13.5	0.5			Home Economics
	13.5	0.5			Basic Technical Skills
	1080	**40**	**1080**	**40**	

1.5.2.2 High School Arts Stream

The high school arts curriculum consists of six core subjects, plus three science-based electives of which students select one, and seven co-curriculum subjects. The core subjects are Myanmar, English, Business Mathematics, Social Studies (Geography), Social Studies (History) and Social Studies (Economics) allocated five periods per week in grades 10 and 11 and six periods per week in grade 12. The social studies subjects, geography, history and economics, have a country and regional focus in grade 10 and 11 broadening to a global world focus in grade 12. The elective is studied for two periods per week. Six of the seven co-curriculum subjects are the same as those studied in middle school with the addition of Information, Media and Technology for high school students. In grade 10 and 11 all co-curriculum subjects are studied for a total of eight periods per week. Of the co-curriculum subjects, only Information, Media is studied in grade 12, and that for two periods per week.

HIGH SCHOOL CORE CURRICULUM ARTS STREAM	Grade 10-11		Grade 12		MODULES
	Hours per year	Periods per week	Hours per year	Periods per week	
Myanmar	135	5	162	6	
English	135	5	162	6	
Business Mathematics	135	5	162	6	Economic Literacy
Social Studies (Geography)	135	5			
Social Studies (People. Places and Environment)			162	6	
Social Studies (History: Myanmar and World)	135	5			
Social Studies (Global Development)			162	6	
Social Studies (Economics)	135	5			
Social Studies (Global Economy)			162	6	
ELECTIVES (select 1)					
Physical Science (Integrated Physics and Chemistry)	54	2	54	2	Environmental Literacy (Environmental Sustainability)
Biological Science	54	2	54	2	
Optional Myanmar	54	2	54	2	
21st CENTURY SKILLS					
Information, Media and Technology	27	1	54	2	
Life Skills	13.5	0.5			
Physical Education	27	1			Health Literacy
Aesthetic Literacy (Music and Art)	27	1			
Moral and Civic Education	13.5	0.5			Moral Literacy
	13.5	0.5			Citizenship Skills
Service to School, Community and Society	13.5	0.5			
VOCATIONAL SKILLS					
Agriculture	27	1			
	13.5	0.5			Career Skills
	13.5	0.5			Learning and Innovation Skills
	13.5	0.5			Home Economics
	13.5	0.5			Basic Technical Skills
	1080	**40**	**1080**	**40**	

1.5.3 Learning Areas – Subject Structure (drafting in progress)

1.5.4 Local Curriculum

The local curriculum will capture the knowledge and life skills used in agriculture, livestock, horticulture, forestry, handicraft, appropriate technology, services and the labour market, in the community and environment of the region where the school is located. Ethnic language may also be considered as a part of the local curriculum. The local curriculum should make up 20%[7] of all the courses. The TEO office, school supervisors and the Education College or Institute of Education for each region or state will provide assistance and guidance in reviewing and advising on the content of the local curriculum developed and implemented in each school.

1.5.5 Outline Definitions of New Subjects and Modules

The following outline definitions of new subjects and modules will require further in-depth study and analysis to define the scope and sequence of content.

Physical Science: the science concerned with the study of inanimate natural objects, including physics, chemistry, and astronomy

Biological Science: the science concerned with the study of living organisms, such as biology

[7] 20% initially, increasing in future

Business Mathematics: the mathematics used by commercial enterprises to record and manage business operations, such as accounting, inventory management, marketing, sales forecasting, and financial analysis

Economic Literacy: the competence in identifying and evaluating economic concepts as it relates to personal finance, the economy, and political systems. When one possesses a sufficient level of knowledge in each of those three areas, this will result in higher living standards. All individuals should be informed about personal finance principles, to understand how to open and manage a bank account; learning how to budget properly to avoid debt; and to have basic knowledge on how the investment market and business world works. Economic literacy will enable individuals to properly manage financial risk. Economic literacy will be integrated in the secondary curriculum as a module within mathematics and in other subjects as relevant.

Environmental Literacy: the capability for a contextual and detailed understanding of an environmental problem in order to enable analysis, synthesis, evaluation, and ultimately sound and informed decision making at a citizen's level. "Environmentally literate" students will have the knowledge, tools, and sensitivity to properly address an environmental problem and to routinely include the environment as one of the considerations in their work and daily living. Environmental literacy will be integrated in the secondary curriculum as a module within general science and chemistry and in other subjects, such as geography and life skills, as relevant.

Information, Media and Technology: While the ICT or IMT curriculum of the future in secondary schools will become increasingly digitally based, the curriculum focus in the immediate and short to medium term will be on existing and emerging forms of media and advances in technology and the ways in which these impact on and influence the lives of individuals and communities in Myanmar today. This may include journalism, social media, advertising, and intellectual property rights for example, each of which is changing rapidly. Young people need to develop a range of functional and critical thinking skills in processing and managing information through new media and effective use of ICT (Information, Communication, and Technology).

1.5.6 Official Language and Language of Instruction

Myanmar is the official language and language of instruction for teaching and learning in general education. Ethnic languages are also used in some learning contexts and locations, especially in lower primary grades. English is used as the language of instruction in high school mathematics, physics, chemistry and biology. Since this can impact on the students' conceptual understanding of the subject content teachers may use dual language in their teaching and may provide a glossary of the basic terminology for each subject. Students may insert Myanmar vocabulary in their text book.

1.6 Teaching and Learning Approaches in Secondary Education

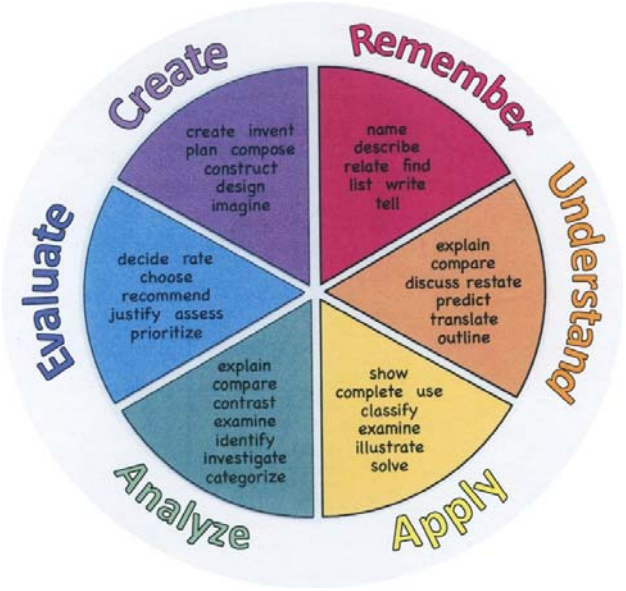
A competency based approach to teaching and learning will be introduced into secondary school teaching and learning in 2017- 2021, incorporated into the new secondary curriculum (see section 1.6.1). The teaching and learning methodologies that are considered most relevant to each secondary school subject are mapped out in Annex 4, providing examples of "what the teacher will do" and "what the student will do". Teachers will be selective and may select and use a variety of teaching methods in each lesson as appropriate. Teachers should be well prepared with lesson plans

that describe the intended outcomes for each lesson. Each lesson will provide continuity, building on students' prior learning.

A model of teaching and learning approaches will be constructed using the following headlines:

The **teacher** will create **a dynamic learning environment** that is:	**Students** will learn in **a dynamic classroom environment** as:
• Learner centred • Focused on processes of learning (introduction – practice – extension) • Focused on holistic learning linking content across subject domains With the teacher as: • organiser of knowledge • "enabler", facilitating and guiding students in their learning	• Active and participatory learners • Reflective learners Who are encouraged to: • ask questions and explore ideas • take responsibility for their own learning • collaborate with others • actively listen to the views of others • make connections in their learning

A model of teaching and learning based on Blooms Taxonomy will ensure that there is a clear and progressive structure from knowledge, through comprehension, application, analysis, synthesis and evaluation. The diagram (right)provides guidance for teachers on appropriate verbs to assist teachers in lesson preparation and delivery using a 21st century re-definition of the key terms:



Knowledge	-	Remember
Comprehension	-	Understand
Application	-	Apply
Analysis	-	Analyse
Evaluation	-	Evaluate
Synthesis	-	Create

1.6.1 Competency Based Learning and Assessment

Competence and outcomes-based education places the emphasis on providing learners with a clear understanding of the course content they will be studying and the ways in which their learning will be assessed. Competency may be measured through the ability to demonstrate understanding, to use information and cognitive skills to solve problems and apply learning to real situations and assessed tasks. Learning outcomes are described at four levels of achievement: advanced, proficient (grade/age level), basic and below basic. To support the introduction of competency based learning, a limited number of key learning outcomes and competency levels will be identified for each subject and grade.

Competency Level Descriptions:

Advanced: Advanced students demonstrate superior performance well beyond proficient grade-level performance.

Students can apply established reading, writing and mathematics skills to solve complex problems and complete demanding tasks on their own.

Students can make insightful connections between abstract and concrete ideas and provide well-supported explanations and arguments.

Proficient: Proficient students demonstrate solid academic performance for the grade tested and are well prepared for the next level of schooling.

Students can use established reading, writing and mathematics skills and knowledge to solve problems and complete tasks on their own.

Students can link ideas together and explain the ways their ideas are connected.

Basic: Basic students show substantial skills in reading, writing and mathematics; however, they only partially demonstrate the abilities to apply these skills.

Below Basic: Below basic students fail to show sufficient mastering of skills in reading, writing and mathematics to attain the basic level.

Source: US Department of Education

1.7 Assessment and Examinations

Assessment in secondary school grades will include both formative and summative assessment. Formative assessment will enable teachers and students to monitor and improve their learning achievement by identifying areas of strength and weakness.Summative assessment will enable teachers and students to evaluate their achievement at the end of an instructional period. Assessment will be made through continuous assessment of course work (40%)[8] and semester end tests (60%). Assessment will serve the purpose of informing teachers, students and their parents of progress across the range of core and co-curriculum subjects. Teachers will be required to assess students on attitude, skills and knowledge.

ATTITUDE to learning will be measured through evidence of: - participation - interests - motivation - social, moral, personal and leadership skills	**SKILLS** will be measured through evidence of performance in: - Literacy and Numeracy - Vocational skills - Life skills - Physical and aesthetic education	**KNOWLEDGE** acquisition will be measured through evidence of level of competency in each subject

1.7.1 Middle school grade 9 completion examinations

[8] 40% initially, increasing in future

Middle school grade 9 completion examinations will be set and administered at district level with emphasis on levels of achievement in basic literacy (Myanmar and English) and basic numeracy (mathematics). District level completion examinations will be standardised and quality assured. Students will be graded in the core subjects and the middle school completion certificate will record achievement in semester tests (80%) and course work (20%) including CPR and achievement in co-curriculum and vocational skills. The middle school completion certificate will be a recognised document for entry into the workforce and for transition into high school and general technical high school according to specified entrance criteria. (to be discussed)

1.7.2 Middle School Completion Certificate

A Middle School Completion Certificate will be awarded to all graduates from Grade 9, recording middle school learning achievement in course work, CPR and examination grades. The Middle School Completion Certificate will be used for progression to high school and will guide subject specialisation as well as providing prospective employers with recognised information on individual student achievement and competencies.

1.7.3 High school grade 11(12) completion examinations

High school grade 11(12) completion examinations will be set by Subject-Wide Committees and administered by the Board of Examinations at national level with emphasis on core curriculum subjects. Grade 11(12) students will sit school completion examinations in up to six core subjects. Each subject will be graded at four grade levels A 85-100%, B 70-84%, C 55-69%, D 40-54%, F below 40%. Students who fail a subject may re-sit that subject in the next supplementary examination cycle. The high school completion examination will serve the following purposes: (i) certification for graduation, (ii) as a measure of student achievement and (iii) as an initial requirement for application to post-secondary level education including university entrance. In some cases universities and other post-secondary level education institutions will set their own criteria for entrance, including an entrance examination.

1.7.4 High School Completion Certificate

A High School Completion Certificate will be awarded to all graduates from Grade 11(12), recording high school learning achievement in course work, CPR and examination grades. The High School Completion Certificate will be used for entrance to university and TVET courses with additional entrance requirements to be determined by each institution and ministry. The High School Completion Certificate will also provide high school graduates with a recognised record of individual student achievement and competencies for prospective employers.

2. LEARNING AREAS

Learning Areas	(a) Overall Objectives (b) Grade Level Objectives (c) Grade Level Content (scope and sequence)		
Myanmar Language	Grade 6-9	Myanmar Language	Grade 10-12
English	Grade 6-9	English	Grade 10-12
Mathematics	Grade 6-9	Mathematics Business Mathematics (new)	Grade 10-12
General Science	Grade 6-9	Physics	Grade 10-12
		Biology	Grade 10-12
		Chemistry	Grade 10-12
Geography (Social Studies)	Grade 6-9	Geography (Social Studies)	Grade 10-12
History (Social Studies)	Grade 6-9	History (Social Studies)	Grade 10-12
		Economics	Grade 10-12
Moral and Civics	Grade 6-9	Moral and Civics	Grade 10-11
Physical Education	Grade 6-9	Physical Education	Grade 10-11
Life Skills	Grade 6-11	Life Skills	Grade 10-11
Aesthetic Education (Music)	Grade 6-9	Aesthetic Education (Music)	Grade 10-11
Aesthetic Education (Art)	Grade 6-9	Aesthetic Education (Art)	Grade 10-11
Agriculture	Grade 6-9	Agriculture	Grade 10-11
Computer Studies / Information, Media and Technology	Grade 7-9	Information, Media and Technology	Grade 10-12

ANNEX 2b SUMMARY STATEMENT - SECONDARY EDUCATION CURRICULUM FRAMEWORK

The CDT team undertook an exercise in drafting a summary statement for the Curriculum Framework . This summary may be reviewed by curriculum expert committee members and can be incorporated, with revisions, into the relevant sections of the Curriculum Framework

CDT Team Curriculum Framework Summary

Secondary School graduates in 2020

Students who graduate from secondary school in the 2020s and beyond will need the skills and knowledge to face the socio-economic challenges of the 21st century. They will be the new generation who can manage their lives peacefully, well prepared and ready to work. After graduating from lower secondary school they should be equipped with a set of basic skills and a large number of applied skills.

For lower secondary level

- Fundamental skills of literacy and numeracy
- Critical thinking and problem solving skills
- Creative thinking skills
- Communication and collaboration skills
- Vocational and skills for life career
- Social skills (self-awareness, interpersonal relationship, coping with stress and emotion, and responsibility for good citizenship)
- Basic ICT skills

For upper secondary level

All the above skills and, in addition:

- creative and innovation skills
- written skills of both Myanmar and English languages,
- leadership skills and responsibility for good citizenship.

New structure and content for textbook

The textbooks should be structured into the competency and skills based curriculum. The contents should be reliable and applicable to the real life contexts, not overloaded for learners and updated to incorporate new areas of learning. The textbook should consist of clear concepts which can encourage deep thinking and understanding for students. The linkage of contents must be sequential and not overlapping with others. The student must be encouraged to learn through self-study .

The co-curriculum should be upgraded in lower secondary level to be of interest to the range learners including those who would like to join to vocational careers as gardener, footballer, carpenter, mechanic, tailor and so on.

What the teacher needs in 2020.

According to the reform of curriculum, the teachers who have to teach and facilitate the students must have good teacher education and be well prepared for the new CCA pedagogy using learning by doing project work and evidence based student assessment. In particular the teachers must be trained to develop the all above skills with a positive and confident attitude to implement the new curriculum.

Teachers should have the opportunity to be more creative in their teaching. Teaching and learning materials should be made easily available to the teachers and others supporting for their work.

New structure and content for Teacher's guide

To support teachers and to improve teaching and learning the teacher's guide must be well structured with clear instructions and information, including teacher's notes for self-study.

What changes need to be made in assessment.

Our observation is that recent assessment practices have focused students on memorizing the content and this has proved stressful for teachers and students.

The outcome of the use of CET system is that students take the next chapter end test and mostly they forget the previous lesson. The teachers have difficulty making the link to the new lesson. There is a time limit to the tests and teachers have to record a lot of data. Teachers have to do remedial teaching but they cannot do it well.

Students who have to take the matriculation exam face difficulties because they are not in the habit of learning throughout the course and they cannot do well.

Based on their experience some teachers suggested that the test system should be changed to first test, second test and final test. The students have to take the whole course and some questions should be unseen based on the learning concepts.

In conclusion, we should change the exam oriented system. Teachers should develop assessment techniques to be able to assess students' skills theoretically and practically.

Drafted by the DEPT Secondary curriculum development team (CDT) with support from the CESR secondary curriculum team (Aug 2013)

ANNEX 3 CURRICULUM FRAMEWORK

Myanmar CESR Briefing Paper: The Curriculum Framework and its relationship to other curriculum documents

Curriculum Framework – what is it?

The Curriculum Framework sets out what all students should know, understand, value, be able to do as a result of the programs they undertake in school. It is an overarching document that spells out the learning outcomes students should achieve (for instance in the form of graduate profiles). The outcomes are connected to the stated learning objectives for Education. The outcomes are usually defined at a general level ('overarching outcomes') as well as per separate learning areas defined in the Curriculum Framework. It should also include the necessary information about the system and how the curriculum is to be applied. In short, it should provide all the information needed to allow schools to implement the curriculum effectively.

Curriculum Framework – how is it developed?

The Curriculum Framework is usually developed by a broad-based Working Committee of education and curriculum experts, from Ministries of Education, and from Universities and Teacher Education institutions. The Working Committee normally also includes representation from key stakeholder groups (professional associations and unions, individual teachers and head-teachers, representatives from wider society such as parents, religious groups, ethnic groups, labor market and NGOs).

The Curriculum Framework is typically developed in an extensive consultative process based on a draft document developed by the Working Committee. The consultative process takes about a year.

Curriculum Framework – what is in it?

Apart from the learning outcomes, it addresses some or all of the following:

- **principles** on which the Curriculum Framework is built (e.g. the need to be inclusive (for all students), flexible to accommodate different needs of students, societal, personal and environmental values) underpinned by the Education Law and education policies;
- **teaching and learning methodology** (how learning should take place, e.g. through active learning or learner-centered approaches);
- which **learning areas** should be included (e.g. Science, Languages, Health, Maths, etc.) and the linkages between these;
- the **resources** needed for the learning process, and to achieve the learning outcomes;
- the way **learning outcomes** will be assessed;
- **system details** to help schools mount the program such as number of teaching hours per year; proportion of teaching time to be devoted to each subject or subject area; core and optional subjects; etc.

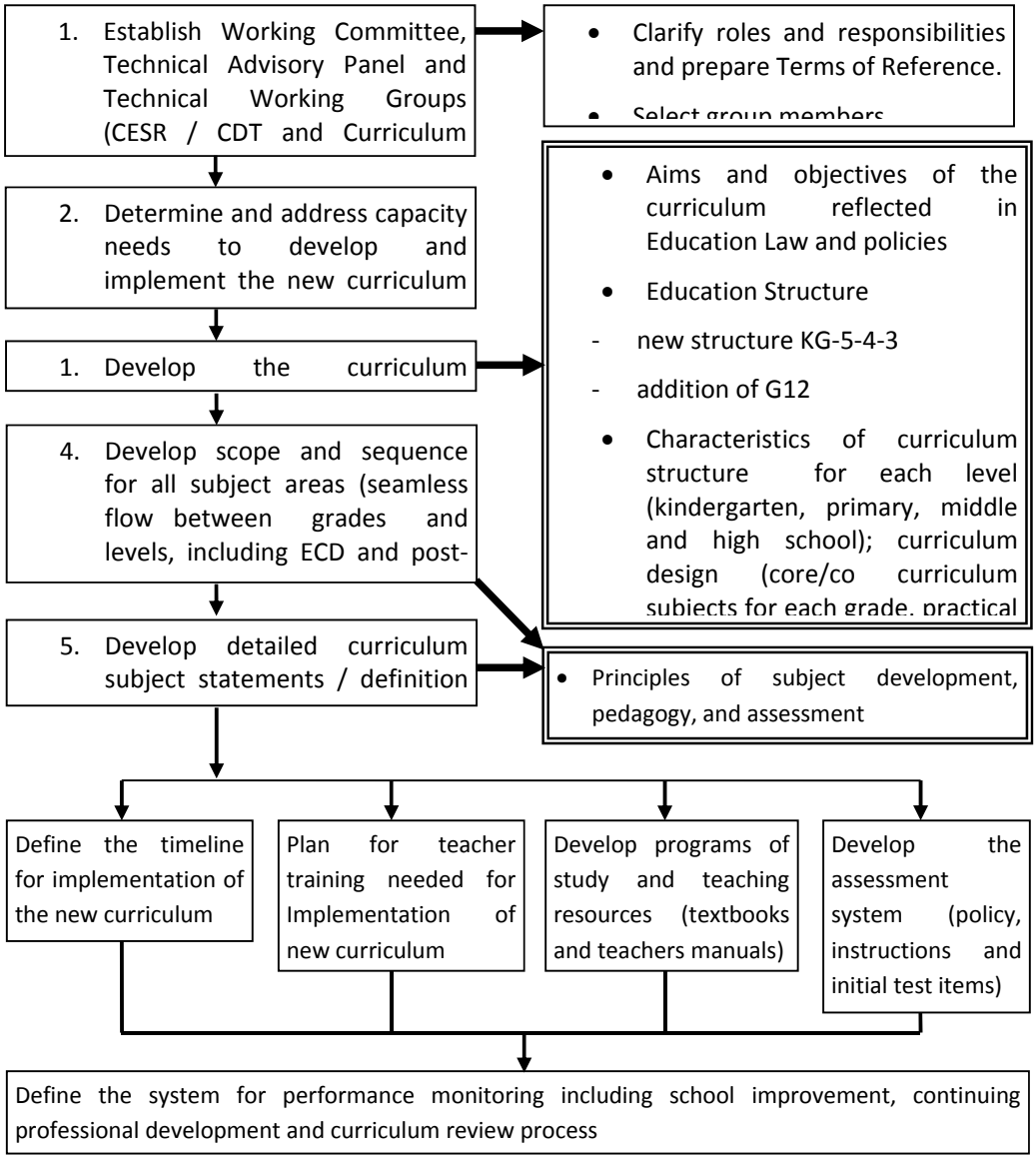
Curriculum Framework – what is it for?

The Curriculum Framework is the guiding document for developing learning programs, subject statements, scope and sequences, teaching schemes, assessment strategies and examination papers. It is used by the technical level (Curriculum Development Centers, Examination Boards, and the Inspectorate) as the guide for the work they do, and by schools to implement the curriculum in the manner intended.

The Flow Chart below summarizes a model structure of the curriculum framework and shows how it is related to other important curriculum documents that are derived from it.

Source: Adapted from Uganda SEIA-Curasse draft report (v43 10Sep07) Roadmap for Reform

FLOW CHART OF CURRICULUM REFORM PROCESS AND KEY INPUTS



NOTE 1. At the request of MOE, an additional note outlining initial and indicative terms of reference for a Working Committee for National Curriculum Reform and other process oversight bodies is attached, *as an input to further discussion*.

NOTE 2. Monitoring of progress towards achievement of international standards prioritising improved standards in basic literacy and numeracy. Possible introduction of TIMMS/PISA in future.

NOTE 3. Decisions on vocational and academic course content will be needed to ensure that all students can complete middle school education in future with basic literacy, numeracy and employable skills (to be carefully defined to ensure this does not lead to two standards of education)

ANNEX 4 SECONDARY CURRICULUM REVIEW – ANALYSIS MATRIX

REVIEW OF SECONDARY EDUCATION TEXTBOOKS AND TEACHERS MANUALS - Task to be undertaken in June-July 2013

Subject:						
Grade:						
Overall Objectives	1					
	2					
	3					
	4					
	5					
Unit / Chapter (number)		Unit/ Chapter Title			Total number of periods allocated	
INFORMATION FOR CURRICULUM FRAMEWORK	**IN-DEPTH REVIEW OF CURRENT CURRICULUM**			**Basis of PHASE 2 RECOMMENDATIONS - justification required and concensus to be reached before inclusion in CURRICULUM FRAMEWORK**		
Brief Outline of **Teaching and Learning Content / Topics** covered in this chapter	(a) **Content Overload** - identify topics where there is too much content for the time allocated	(b) Identify **Out-Dated content** that needs to be omitted, revised or replaced (please indicate which)	(c) **Content Gaps** - identify where there is a lack of continuity with prior or future learning and with other subjects in the same grade	(d) Recommendations for **new curriculum content** - please give a brief but clear justification	(e) Identify where you think there is a need for **new pedagogical approaches**	(f) identify where there is a need for **new approaches to student assessment and examinations**
Unit / Chapter (number)		Unit/ Chapter Title			Total number of periods allocated	
Unit / Chapter (number)		Unit/ Chapter Title			Total number of periods allocated	

ANNEX 5 PHASED ROLL-OUT OF NEW CURRICULUM (PROPOSED)

TASKS for CURRICULUM REFORM	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
SCHOOL CURRICULUM							
Draft Curriculum Framework	KG-12						
TB/TG development	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
TB/TG printing / distribution to schools	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
Implementation of new curriculum		KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12
PRE-SERVICE TEACHER EDUCATION							
Draft Curriculum Framework							
Course Development							
Course Accreditation							
Capacity development of Teacher Educators							
Implementation of new curriculum		YR 1	YR 2	YR 3	YR 4	YR 5	
IN-SERVICE TEACHER EDUCATION							
In-Service Course Development	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
Delivery of in-service program for teachers	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
ASSESSMENT AND EXAMINATIONS							
In-Depth Review of Assessment System	KG-12						
Specification OF Curriculum & Assessment Standards	KG-12						
Development of new Assessment System	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
Capacity Development for new assessment system	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
Trialing new assessment system	KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12	
In-Depth Review of Examination System	G5/G9/G12						
Development of new Examination System		G5/G9/G12					
Capacity Development for new assessment system		G5/G9/G12	G5/G9/G12	G5/G9/G12			
Trialing new examination system			G5/G9/G12	G5/G9/G12			
QUALITY ASSURANCE							
Development of monitoring system	KG-12						
Implementation of system for curriculum monitoring		KG	G1	G2/G6	G3/G7/G10	G4/G8/G11	G5/G9/G12

ASSUMPTIONS
new primary curriculum starting w/ the new KG in SY2015/16 **(note this means there will be no grade 1 students that year);**
new middle school curriculum starting w/ G6 in SY2017/18 **(two years later); and**
new high school curriculum starting w/ G10 in SY2018/19 **(one year later)**
G5-G6 transition curriculum required for years 2017/18, 2018/19 and 2019/20
G9-10 transition curriculum required for years 2018/19, 2019/20 and 2020/21

ANNEX 6 PROPOSED SECONDARY SCHOOL CURRICULUM AND PRINCIPLES OF EDUCATION

Comment on the Proposed Secondary School Curriculum (first draft Sept 2013):

1. An in-depth analysis of the proposed new curriculum for Grade 6-12 has been made by first comparing it with the existing curriculum structure and then considering the overall viability. Included in this paper is a potential packaging of the secondary school curriculum based on reorganisation of the first draft, for consideration and discussion.

2. It is suggested that the emphasis in the revised curriculum be placed on what will be mastered by students not what will be taught by teachers – learning centred education - with changes to the existing secondary school curriculum content kept to a minimum.

3. High priority should be given to the pedagogical changes that are needed (ie to reduce memorisation / rote learning at all levels) and the related methods of assessment of learning outcomes. A basic set of teaching and student assessment methodologies need to be agreed and strategies (teacher professional development, performance monitoring and quality assurance measures) put in place to ensure they are implemented. This should be included as clear statements in the Education Policy and the Curriculum Framework.

4. The priority for content reform, in my view, is to introduce 21st century skills, vocational skills / skills for employment and updated content knowledge alongside revisions to the existing curriculum content focused on addressing content overload and filling gaps in content. Vocational skills is included in the Middle School curriculum, not as traditional workshop skills which would duplicate the vocational schools curriculum, but through soft skills and application of knowledge as a preparation for the transition from school to work. It is neither feasible nor affordable to include workshop skills in middle schools which would overly stretch an already loaded system. All subjects should be made more relevant and applied to skills and knowledge used in the world of work.

5. The curriculum needs to be decongested where identified areas of the curriculum are overloaded. Wherever relevant this overload should be absorbed in the Grade 12 curriculum, if approved for introduction. A minimal amount of new content should be selectively added.

6. Myanmar education professionals are divided as to whether or not English should be used as the language of instruction in middle and high school grades. The main criticism is that it impacts on conceptual learning and forces students and teachers to resort to memorisation to pass tests and examinations. The issue of teaching in English will become increasingly important as the country opens up and will need to be addressed at post-secondary level if not at secondary level. A short Policy Note for consideration by the MOE could be drafted presenting the issues and options for and against teaching of English in secondary grades.

7. If Grade 10-12 subjects are to be taught and examined in English in future, the textbooks should have clear Myanmar – English glossary of terms or key vocabulary given in Myanmar and English in the text. Lessons can be taught using English and Myanmar to ensure concepts are understood. Further review of the curriculum would be needed to ensure there is no duplication and to avoid confusion in conceptual learning. In order to overcome the challenges that teachers and students in Grade 10-11 currently face in teaching and learning in English, the revision of the English curriculum Grade 6-12 could include a component focused on “English for Study Purposes” linked to the vocabulary and English usage the students require in other subjects.

8. Report section 1.4.4 shows a subject structure that may be considered as a development of the first draft curriculum (Aug 2013). This version repackages and streamlines all the subjects listed in the first draft of the new curriculum under four headings:

(i) CORE AREAS OF LEARNING

(ii) ELECTIVES

(iii) 21st CENTURY SKILLS

(iv) VOCATIONAL SKILLS / SKILLS FOR EMPLOYMENT

Items under heading (ii), (iii) and (iv) should be kept to a minimum due to the challenges they will pose for teachers and students in schools of different types. It will be important to ensure that the new curriculum is manageable and deliverable for all schools in all locations and does not lead to inequalities.

9. The co-curriculum subjects under the existing curriculum have been subsumed under one of the four new headings and some of the topics (skills and themes) have been designated as modules under the relevant core area of learning. For example: environmental literacy is listed as a module under general science (MS) and under chemistry (HS); economic literacy is listed as a module under economics or it could be developed as a module of the mathematics curriculum; health literacy is listed a module under Life Skills.

10. No electives are included in Grade 6-9 (this version) because it is proposed that all students should be introduced to all the skills listed as a foundation for further learning, and because the multiple school types would render this much more complex.

11. There are electives in Grade 10-12 for students to study one or two subsidiary subjects: science stream electives are arts based and arts stream electives are science based. Skills subjects are taken by all students, grouped where appropriate, for example citizenship, moral literacy and service to community combine to make one suite of learning. Aesthetic Literacy has been kept separate from Moral Literacy. Arts and Physical Education are generally considered to be subjects that all students should experience as an essential component of an all-round balanced education.

12. 21st Century skills (Information, Media and Technology has been moved from a core subject to a skills subject because this subject will be difficult to deliver in all schools initially, given the present capacity of teachers and level of resourcing required. It can be scaled up in future.

13. The Myanmar curriculum specialists should consider removing computer skills from the middle school curriculum or change computer skills to Information, Media and Technology since international evidence on this is quite mixed. With many schools having limited access to electricity and functioning computers there can be little justification at this time. Information Media and Technology provides a broader platform for understanding of how the modern world works if introduced creatively and linked to all curriculum areas. It can also become very quickly outdated so needs to be approached cautiously and should not considered a panacea for achievement of international standards of education.

14. Vocational Skills / Skills for Employment are grouped as another foundational suite of learning areas that all students should experience (see para 4).

15. The High School subjects are presented as two proposals, each proposal setting out a separate curriculum for science and arts streams (see report section 1.4.4). The main difference between the two proposals is that in Proposal 1 students study six core subjects plus one elective in Grades 10-12; in Proposal 2 students study six core subjects in Grades 10-11 plus one elective and they then study five core subjects in Grade 12 plus two electives. This is modelled on the first draft curriculum (Aug 2013), if interpreted correctly. Consideration would need to be given to the feasibility of timetabling and implications for provision of teachers to cover all subjects in either of these high school proposals.

16. Secondary School Examinations need to be considered in more depth. The initial proposal for High School "Ordinary" level exam at the end of Grade 11 and High School "Advanced" level exam at the end of Grade 12 is not viable. One year of study for "A" level is not adequate. In the UK system students sit "O" level exams at the end of Grade 10 equivalent and then have 2 years of study for "A" level at the end of Grade 12 equivalent. Students in UK would generally sit 5-7 "O" level exams (GCSE) and 2-3 "A" level exams.

17. The Board of Examinations needs to be restructured and upgraded to provide technical oversight and quality assurance of the school completion examinations.

18. A possible time allocation is proposed which is consistent and streamlined for all subjects under each heading except for Middle School Core subjects which use the same time allocation as the present curriculum. These proposed time allocations will need to be reviewed and discussed among the CDT team to reach consensus.

19. The study hours are calculated in this proposal as a total of 1080 hours per year for Grade 6-12 which is an increase in the present study hours (MS=917 hrs p/y, HS=929.25 hrs p/y) which would bring the Myanmar secondary system closer to international norms.

20. Table 1 shows the possible requirement for revision of existing textbooks and preparation of new textbooks and modules aligned to this second draft of the proposed new secondary school curriculum (Sept 2013).

Comment on the Principles of Education

21. Definitions of Citizenship (Principle 2), 21st Century Skills (Principle 3) and other new terminology need to be agreed and described in the Education Policy and Curriculum Framework. These new topics / themes need to be carefully incorporated into the new curriculum under the respective subjects and should as far as possible be integrated rather than presented as stand-alone subjects. As stated in Para.5 the secondary school curriculum needs to be decongested and so any additional proposed content should be woven into the current curriculum subjects where possible. Assessment of these new topics with a skills focus should centre on competencies and application, not on theoretical knowledge.

22. Principle 4 "Completion" needs to be explained. Does it mean that a course or school level is completed or is it more an interpretation of individual completeness? If the latter then the focus should perhaps be on achievement of individual potential or individual competency. This would enable the school system to move away from the idea of all students achieve the same level of learning achievement to one in which each student achieves the best they can. I am not sure whether this is the same concept as "Completion".

23. Principal 5 should also include "preparation for the world of work" as well as preparation for further studies, as it is referring to preparation for post-secondary school.

Comment on additional sections of the Curriculum Framework to be prepared

24. In addition to agreement on the Curriculum Structure and Principals of Education the following sections of the Curriculum Framework need to be prepared and agreed at high level as a foundation for development of the new curriculum textbooks, teachers manuals and teacher training curriculum:

    - Vision Statement
    - Outcomes of Education (Kindergarten, Primary, Middle School, High School)
    - Teaching and Learning Methodology
    - Assessment and Examinations

25. Further actions are needed:

- to prepare an implementation strategy, timeframe and implementation plan for the new curriculum, including capacity development and teacher orientation
- to define the new skills proposed for the secondary school curriculum
- to map out new subject content

Footnote:

There is a new set of three publications from the Learning Metrics Task Force which aims to catalyze a shift in the global conversation on education from a focus on access to access *plus* learning. These documents may be a useful reference for the Myanmar curriculum reform. They are not intended as a curriculum but they provide a whole structure.

Toward Universal Learning: Recommendations from the Learning Metrics Task Force, Report 3 (Sept 2013)

Toward Universal Learning: A Global Framework for Measuring Learning, Report No. 2 (July 2013)

Toward Universal Learning: What Every Child Should Learn, Report No. 1 (Feb 2013)

They can be accessed at http://www.brookings.edu/about/centers/universal-education/learning-metrics-task-force/resources

Table 1 **Textbook revision and new textbooks required for proposed second draft curriculum (draft for discussion pending approval of new secondary curriculum structure)**

	Middle Sch					Prop 1 Sc.			Prop 1 Arts.			Prop 2 Sc.			Prop 2 Arts.		
	Gr 6	Gr 7	Gr 8	Gr 9		Gr 10	Gr 11	Gr 12	Gr 10	Gr 11	Gr 12	Gr 10	Gr 11	Gr 12	Gr 10	Gr 11	Gr 12
Myanmar	rev	rev	rev	rev	**Myanmar**	rev	rev	new	rev	rev	new	rev	rev	new	rev	rev	new
					Optional Myanmar				rev	rev	new				rev	rev	new
English	rev	rev	rev	rev	**English**	rev	rev	new	rev	rev	new	rev	rev	new	rev	rev	new
Mathematics	rev	rev	rev	rev	**Mathematics**	rev	rev	new				rev	rev	new			
					Business Mathematics				new	new	new				new	new	new
General Science	rev	rev	rev	rev	**General Science**												
					Physics	rev	rev	new				rev	rev	new			
					Chemistry	rev	rev	new				rev	rev	new			
					Biology	rev	rev	new				rev	rev	new			
					Physical Science (Integrated Physics and Chemistry)				new	new	new				new	new	new
					Biological Science				new	new	new				new	new	new
Environment Literacy (21st C - environmental sustainability)	new	new	new	new	Environment Literacy - environmental sustainability (2	new	new		new	new		new	new		new	new	
Social Studies (Geography)	rev	rev	rev	rev	**Social Studies (Geography)**	rev	rev		rev	rev		rev	rev		rev	rev	
Social Studies (Myanmar: a land of different national groups)	new	new	new	new	Social Studies (People, Places and Environment)			new			new			new			new
Social Studies (World History)	rev	rev	rev	rev	**Social Studies (History: Myanmar and the World)**	rev	rev		rev	rev		rev	rev		rev	rev	
					Social Studies (Global Development)			new			new			new			new
					Social Studies (Economics)	rev	rev		rev	rev		rev	rev		rev	rev	
					Social Studies (Global Economy)			new			new			new			new
Economic Literacy (21st C)	new	new	new	new	Economic Literacy (21st C)	new	new					new	new		new	new	
Life Skills (21st C)	rev	rev	rev	rev	**Life Skills (21st C)**	rev	rev		rev	rev		rev	rev		rev	rev	
Health Literacy (21st C)	rev	rev	rev	rev	Health Literacy (21st C)	rev	rev		rev	rev		rev	rev		rev	rev	
Computer Skills (21st C)	rev	rev	rev	rev	**21st Century Skills - *Information, Media and Technolog***	new	new	new	new	new	new	new	new	new	new	new	new
Physical Activities	rev	rev	rev	rev	**Physical Activities**	rev	rev		rev	rev		rev	rev		rev	rev	
Aesthetic Literacy - Music and Art (21st C)	rev	rev	rev	rev	**Aesthetic Literacy (21st C)**	rev	rev		rev	rev		rev	rev		rev	rev	
Citizenship Education	new	new	new	new	**Citizenship Skills (G10-11)**	new	new		new	new		new	new		new	new	
Moral Literacy (21st C)	rev	rev	rev	rev	Moral ~~and Aesthetic~~ Literacy (21st C)	rev	rev		rev	rev		rev	rev		rev	rev	
Service to Classroom, School, Community and Society	rev	rev	rev	rev	Service to School, Community and Society	new	new		new	new		new	new		new	new	
Vocational Skills / Skills for Employment					**Vocational Skills / Skills for Employment**												
Career Skills (21st C)	new	new	new	new	Career Skills (21st C)	new	new		new	new		new	new		new	new	
Learning and Innovation Skills (21st C)	new	new	new	new	Learning and Innovation Skills (21st C)	new	new		new	new		new	new		new	new	
Agriculture	rev	rev	rev	rev	Agriculture	rev	rev		rev	rev		rev	rev		rev	rev	
Home Economics	new	new	new	new	Home Economics	new	new		new	new		new	new		new	new	
					Basic Technical Skills	new	new		new	new		new	new		new	new	
									additional						additional		
revision of existing TB	13	13	13	13	**revision of existing TB**	14	14		1	1		14	14		1	1	
new subject = new TB	1	1	1	1	**new subject = new TB**	2	2	10	3	3	4	2	2	10	3	3	4
revision of existing TB module	1	1	1	1	**revision of existing TB module**	1	1					1	1				
new module	6	6	6	6	**new module**	6	6					7	7				
		module			Electives teach selected chapters from the core textbook		module			module			module			module	
		textbook					textbook			textbook			textbook			textbook	

ANNEX 7 CESR AND DEPT CDT CURRICULUM REVIEW CAPACITY DEVELOPMENT PROGRAM

CESR Curriculum Team meetings May to Oct 2013

Purpose:

(i) Capacity development of CESR Secondary Curriculum team and DEPT Secondary CDT members

(ii) Review of current secondary curriculum by subject and grade (6-11)

(iii) Preparation of draft Curriculum Framework

(iv) Discussion of key topics: Language of Instruction, teaching methodology, methods of assessment and examination, addition of G12 in future, 21st century skills, Basic Learning Competencies

(v) Presentation of international best practice

Tasks were assigned to CDT team to complete between inputs of the International Consultant

On-going discussion was held with Dr Myint Thein and he was also invited to participate in all Curriculum Team meetings whenever available

Some sessions were held in CESR office and some sessions were held in DEPT CDT office depending on room availability.

Date		Topics covered	CDT Tasks	Outputs
1-19 May 2013	Briefings for new CESR team members	Detailed Work Plan Strategy for Phase 2 in-depth analysis International examples of curriculum framework and reform process (UK, USA, Australia, N.Zealand)		Detailed Work Plan
Session 1 20 May 2013	CDT team	Defining the New Curriculum Curriculum Review Process	Discussion on each topic Handouts	
Consultation Workshop 27th May 2013	CDT and expert panel workshop	Background to Curriculum Reform Process of Curriculum Reform Key Issues – content, pedagogy, assessment and examinations	Use of TB review instruments/matrix Identify overload, gaps, outdated content and new content, pedagogy and assessment ideas PPT presentation and discussion	Draft outline of Curriculum Review Matrix
24th June 2013	CDT team	Progress on TB review Paper on Development of	Grade 10 review summary	Grade 10 summary and detail

		Curriculum Framework		
26th June 2013	CDT team	Key Issues for reform of G6-11 Paper on addressing the challenges	Discussion and further G6-11 review	Grade 11 summary
27th June 2013	CDT team	Content review overview Initial discussion on terminology (skills) and curriculum structure (California Common Core Curriculum)	Summary of Content for each grade and subject presented	Content Summaries (by grade and subject)
24th July 2013	CDT team	Main Findings of the review Next Steps in mapping the curriculum framework Academic vs Vocational Language of Instruction	Discussion on Key Issues: Academic vs Vocational Language of Instruction Presentations from each group	Group Presentations Academic vs Vocational Language of Instruction
29th July 2013	CDT team	Definitions of Key Terminology and Concepts (Critical Thinking Skills) Four Pillars of Learning	Discussion and development of the four pillars concept.	Four Pillars diagram
30th July 2013	CDT team	Competency Based Learning Student Assessment and BLC	Discussion of key concepts applied to Myanmar context	Group presentations Student Assessment and BLCs
20th August	CDT team	Review TM analysis Review BLCs for G.6 – agree on learning outcomes NOT competencies Agree common format for TB / TM (contents sections)	Recommendations (SES) drafted - Reform of TB - Reform of TM - Reform of Assessment (BLC) Problems for revision of TB / TG identified and discussion of ways to improve TB/TG	BLCs for G6 (draft) Common Format for TB/TG
26th August	CDT team	Curriculum Structure –	Summary statement of	Summary

		subjects by no. of teaching hours and language of instruction. Compare curriculum content for each grade by subject Develop matrix of subjects and content for each grade	recommendations from above Review content of TM/TB and Curriculum Framework	Statement Summary table of subjects and teaching hours / TB Skills Matrix
28th August	CDT team	Curriculum Framework sections – Four Pillars Recommendations for pedagogy and assessment in sec ed. Work plan (process) for curriculum review	Lan and Htike school visit report Dr Myint Thein – framework subjects description Check teaching hours summary – suggest any changes Summary finalized statement Skills matrix	BLC for G7 (draft) School visit report Dr Myint Thein draft Curriculum Structure
9th Oct 2013	CDT team	Summary of work completed during Sept – CDT team, CESR team, MY Review of MY comments on Dr MT curriculum Questions for new curriculum survey	More discussion needed on BLCs	MY revised draft curriculum structure Curriculum Survey questionnaire
30th Oct 2013	CDT team	Feedback from the group / MY on curriculum structure Definitions of new curriculum skills and course work assessment (portfolio, project, score card, etc) Overall Objectives (Htike and Lan)		
Tasks to be undertaken	CDT team	Curriculum summaries A4 page		

(Nov 2013)		Findings and Recommendations review – summary of analysis and generalisations of findings		
		Further actions are needed: • to prepare an implementation strategy, timeframe and implementation plan for the new curriculum, including capacity development and teacher orientation • to define the new skills proposed for the secondary school curriculum • to map out new subject content		

DEPT CDT Participants

Name	Subject Group	Reference books
Daw Khin San Dar Lwin	Science	G6-9
Daw Yin Min Nyein	Science	G6-9
Daw Aye Aye Nyunt	Myanmar	G6-11
Daw Maw Maw	Myanmar	G6-11
Daw Myint Myint Aye	Myanmar	G6-11
Daw Ni Ni Aye	Chemistry	G10-11
Daw Khin Thet Maw	Chemistry	G10-11
Daw Myint Myint Win	Chemistry	G10-11
Daw Swe Swe Hnin	Physics	G10-11
Dr Htay Htay Win	Biology	G10-11
Daw May San Lwin	Biology	G10-11
Daw Khin Than Win	Biology	G10-11
U Tun Naing	Fine Arts	G6-11

Daw Thein Thein Yee	Geography	G6-11
Daw Sam Sam Lwin	Geography	G6-11
Daw Khin Yu Wai	History	G6-11
Daw Khin Thandar Win	History	G6-11
Daw Khin Soe Moe	History	G6-11
Li Tin Chit	Civics	G6-11
Daw War War Myint Shwe	Agriculture	
Daw Aye Nyunt	Mathematics	G6-11
Daw Khin May Aung	Mathematics	G6-11
Daw Aye Aye Myint	Mathematics	G6-11
Daw Tin Tin Win	English	G6-11
Daw Khin Shan Aye Phyu	Physical Education	
Daw San San Yee	Aesthetics (Music)	
Daw Yin New Tun	Aesthetics (Music)	
Daw Aye Myint Oo	Life Skills	G6-11
Gin Lan Kyein	CESR SES Curriculum	
Khin Htike San	CESR SES Curriculum	

Examples of International Curriculum Resource Materials provided for review by the CDT team

Secondary education curriculum resources have been reviewed from Western Australia, Bhutan, England, California USA, and India SSA (Sarva Shiksha Abhiyan) project including examples of curriculum frameworks, subject structures, objectives and outline content, and student assessment guidelines. These resources will remain available to the curriculum development team and will be added to as available.

ANNEX 8 INTERNATIONAL COMPARISON OF HIGH SCHOOL CURRICULUM

Regional Comparison - Secondary School Curriculum

Source: UNESCO Education Systems in ASEAN+6 Countries: A Comparative Analysis of Selected Educational Issues Comparative analytical report prepared for the Myanmar Comprehensive Education Sector Review WORKING PAPER1/7/2013

2. Curriculum at the secondary level

2.1 Relevance of curriculum

A relevant curriculum is a necessary pre-requisite for the provision of quality education. Many governments, in their national curricula for secondary education, explicitly state that the curriculum should have relevance for students entering higher education or the labour market, by equipping their students with sufficient knowledge, life skills and/or practical skills. Table 24 below shows examples of curricular aims from select countries. While governments generally aim to develop a curriculum that meets the needs of the country and its people, many do not have sufficient human and financial resources to make this a reality.

Table 24. Examples of Curricular Aims from Select Countries

Australia	The Australian Curriculum will equip all young Australians with the essential skills, knowledge and capabilities to thrive and compete in a globalised world and information rich workplaces of the current century.
Brunei	The new education plan, SPN 21, structure takes into consideration key aspects of quality education for nation building and human capital development. It aims to achieve quality education through the provision of a balanced curriculum which is benchmarked against creditable quality assurance or assessment systems of international standards.
Cambodia	The aim of the school curriculum is to develop fully the talents and capacities of all students in order that they become able people, with parallel and balanced intellectual, spiritual, mental and physical growth and development.
People's Republic of China	The school curriculum serves the aims of basic education, as defined in the 2001 State Council Resolution on the Reform and Development of Basic Education: • Enabling the development of a new, well-educated, idealistic, moral and patriotic generation with a love for socialism, and who will inherit fine traditions of the PRC • Develop an awareness of socialist democracy and law as well as respect for state laws and social norms • Develop appropriate world outlook, life outlook and values • Develop a sense of social responsibility • Develop an innovative spirit, practice skills, a knowledge base of sciences and humanities, and an awareness of environmental protection issues • Develop good physical health and psychological qualities, healthy aesthetical tastes and lifestyles.

Japan	In Japan, the standard nationwide curriculum known as the 'Course of Study', aims to strengthen the teaching of basic and fundamental contents and to develop education considering individual students needs and abilities.
New Zealand	The New Zealand Curriculum aims to contribute to all students having a strong foundation for learning, high levels of achievement, and a lifelong engagement in learning.
The Philippines	The secondary education curriculum aims to raise the quality of Filipino students and empower them for lifelong learning by attaining functional literacy.
Singapore	Singapore's national curriculum aims to nurture each child to his full potential, to discover his talents and to develop in him a passion for life-long learning. Students go through a broad range of experiences to develop the skills and values that they will need for life.

Source: Compiled by UNESCO staff based on different sources

Regular review processes ensure that the national curriculum remains relevant in light of changes such as local developments and global trends. Countries that have scheduled review cycles include Japan, Singapore and Viet Nam. In Japan, 'Courses of Study' are reviewed every ten years or so. In Singapore, the curriculum planning and review process is six years, with a midterm review at the end of the third year, while in Viet Nam, the government has plans to review the curriculum regularly every 5-10 years. For other countries, curriculum reviews appear to take place on an ad hoc basis, usually driven by external factors or emerging issues.

The perception of a relevant curriculum could involve feedback from institutes of higher education or employers who take in workers with secondary education qualifications. For example, employers in Cambodia report that it is difficult to find professional staff who have strong analytical and decision-making skills, while employers in Malaysia say that secondary graduates are lacking in many of the "21st century" skills including communication, teamwork and English language skills.

2.2. Content of curriculum

While most countries have a detailed national curriculum framework specifying subjects to be studied, others only have a broad framework with general learning areas for districts / states to implement based on local needs and priorities. Of the countries that have detailed national curriculum framework, a few of them include a component for 'local content'. The inclusion of 'local content' within an otherwise structured framework allows for flexibility and customization within a structured curriculum framework for the teaching of relevant local knowledge/skills. Countries that fall into each of these categories are indicated in Table 25 below.

Table 25. Contents of National Curriculum Framework

Countries with detailed national curriculum framework, without 'local content'	Brunei Darussalam Japan Lao PDR Malaysia Myanmar Republic of Korea Singapore Thailand Viet Nam
Countries with detailed national curriculum, including a component for 'local content'	Cambodia PRC Indonesia Philippines
Countries with broad national curriculum framework (Districts / States are free to implement based on guidelines)	Australia India New Zealand

Source: IBE, 2011. *World Data on Education. Seventh Edition*

In general, the contents of the curriculum for lower secondary education consolidate the learning at primary level while also developing the content as a foundation for upper secondary education. As such, most countries with detailed national curricula have a set of prescribed subjects for students at this level. Upper secondary education then focuses more on preparing students for either the next level of education or for the workplace. For this stage, there is variation between countries as to the availability of choice for students to choose their preferred areas of study within general education. This information is presented in Table 26 below.

Table 26. Availability of Option to Choose Subjects for Study at Lower and Secondary Levels

Country	Lower Secondary	Upper Secondary
Brunei Darussalam	Options available	Options available
Cambodia	Prescribed subjects only	Options available
PRC	Prescribed subjects only	Prescribed subjects only
Indonesia	Prescribed subjects only	Options available
Japan	Prescribed subjects only	Options available
Lao PDR	Prescribed subjects only	Prescribed subjects only
Malaysia	Prescribed subjects only	Options available
Myanmar	Prescribed subjects only	Options available
Philippines	Prescribed subjects only	Prescribed subjects only
Republic of Korea	Options available	Options available
Singapore	Prescribed subjects only	Options available
Thailand	Prescribed subjects only	Options available
Viet Nam	Prescribed subjects only	Prescribed subjects only

Source: IBE, 2011. *World Data on Education. Seventh Edition*

The subjects taught at lower secondary in the countries studied are rather similar, with all countries covering at least two languages, mathematics, science, social science and physical education. Most

countries have art/music, civics/moral education and technology, while only some include religious studies in their lower secondary curriculum. Table 27 below maps out the general subject areas taught at the lower secondary level in the various countries.

Table 27: Mapping of Content Areas Taught at Lower Secondary Level

Country	1st Lang	2nd Lang	Maths	Science	Social Science	Physical Ed	Art / Music	Civics / Moral	Technology	Religion
Australia	English	✓	✓	✓	✓	✓	✓		✓	
Brunei Darussalam	Malay	✓	✓	✓	✓	✓		✓	✓	✓
Cambodia	Khmer	✓	✓	✓	✓	✓				
PRC	Chinese	✓	✓	✓	✓	✓	✓	✓	✓	
India	Various	✓	✓	✓	✓	✓	✓		✓	
Indonesia	Bahasa	✓	✓	✓	✓	✓	✓	✓	✓	✓
Japan	Japanese	✓	✓	✓	✓	✓	✓	✓		
Lao PDR	Lao	✓	✓	✓	✓	✓	✓	✓	✓	
Malaysia	Malay	✓	✓	✓	✓	✓	✓			✓
Myanmar	Myanmar	✓	✓	✓	✓	✓	✓	✓		
New Zealand	English	✓	✓	✓	✓	✓	✓		✓	
Philippines	Tagalog	✓	✓	✓	✓	✓	✓	✓		
Republic of Korea	Republic of Korean	✓	✓	✓	✓	✓	✓	✓	✓	
Singapore	English	✓	✓	✓	✓	✓	✓	✓		
Thailand	Thai	✓	✓	✓	✓	✓	✓			✓
Viet Nam	Vietnamese	✓	✓	✓	✓	✓	✓	✓	✓	

Source: IBE, 2011. *World Data on Education. Seventh Edition*

For upper secondary, the content of the curriculum differs greatly both between countries, and also within countries depending on the educational track and choices made by the students. Some countries stream their students according to academic ability (i.e. Singapore and Brunei), while others provide electives to suit their students' needs. The PRC, Japan and Republic of Korea have a credit/unit system that allows greater flexibility for students to exercise choice based on their strengths and interests.

Department for Education, (2011). *The Framework for the National Curriculum. A report by the Expert Panel for the National Curriculum review*. (London: Department for Education).

Study of the educational frameworks of high-performing jurisdictions suggests that aims are important for their systems and are often expressed at a number of different levels. We recommend that aims should be expressed at the following levels:

Level 1: Affirming system-wide educational aspirations for school curricula (a statement at this highest level applying to the school curriculum as a whole has existed in legislation since 1944; it is crucial because it provides the foundation on which the National Curriculum is built);
Level 2: Specifying more particular purposes for schools and for their curricula; and
Level 3: Introducing the goals for the Programmes of Study of particular subjects.

In particular, we agree with the stated intention of the National Curriculum review to draw a clear distinction between the **National Curriculum** and the **school curriculum**, (i.e. the whole curriculum as experienced by the pupils in the school). This will help to ensure that pupils, parents, teachers and the wider public understand that the National Curriculum is not the totality of what is taught. We also support the Government's intention to recast the National Curriculum so that it sets out a core of essential knowledge to allow more scope for curricular provision determined at school or community level. We make specific suggestions in Chapter 3 about how the parts of the school curriculum should be revised.

The school curriculum should develop pupils' knowledge, understanding, skills and attitudes to satisfy economic, cultural, social, personal and environmental goals. More specifically, provision should be developed to:

1. *Satisfy future economic needs for individuals and for the workforce as a whole, including the development of secure knowledge and skills in communication, literacy and mathematics and confidence in acquiring new knowledge and skills;*

2. *Appreciate the national cultures, traditions and values of England and the other nations within the UK, whilst recognising diversity and encouraging responsible citizenship;*

3. *Provide opportunities for participation in a broad range of educational experiences and the acquisition of knowledge and appreciation in the arts, sciences and humanities, and of high quality academic and vocational qualifications at the end of compulsory schooling;*

4. *Support personal development and empowerment so that each pupil is able to develop as a healthy, balanced and self-confident individual and fulfil their educational potential;*

Key Principles

- The new National Curriculum will be developed in line with the principles of freedom, responsibility and fairness – to raise standards for all children.
- Schools should be given greater freedom over the curriculum. The National Curriculum should set out only the essential knowledge (facts, concepts, principles and fundamental operations) that all children should acquire, and leave schools to design a wider school curriculum that best meets the needs of their pupils and to decide how to teach this most effectively.
- The content of our National Curriculum should compare favourably with curricula in the highest performing jurisdictions, reflecting the best collective wisdom we have about how children learn and what they should know.
- The National Curriculum should embody rigour and high standards and create coherence in what is taught in schools, ensuring that all children have the opportunity to acquire a core of knowledge in the key subject disciplines.
- The National Curriculum should provide young people with the knowledge they need to move confidently and successfully through their education, taking into account the needs of different groups, including the most able and pupils with special educational needs and disabilities (SEND).
- It is important to distinguish between the National Curriculum and the wider school curriculum (the whole curriculum as experienced by pupils in each school). There are a number of components of a broad and balanced school curriculum that should be developed on the basis of local or school-level decision making, rather than prescribed national Programmes of Study. To facilitate this, the National Curriculum should not absorb the overwhelming majority of teaching time in schools.
- The National Curriculum will continue to be a statutory requirement for maintained schools but will also retain its importance as a national benchmark of excellence for all schools, providing parents with an understanding of what their child should be expected to know at every stage of their school career.

- **Economic** – the education of pupils is expected to contribute to their own future economic wellbeing and that of the nation or region;
- **Cultural** – the education of pupils is expected to introduce them to the best of their cultural heritage(s), so that they can contribute to its further development;
- **Social** – the education of pupils is expected to enable them to participate in families, communities and the life of the nation; and
- **Personal** – the education of pupils is expected to promote the intellectual, spiritual, moral and physical development of individuals.

Figure 2 – The School Curriculum

	Brief description	Statutory basis	Responsibility
National Curriculum	Essential knowledge to be taught in statutory core and foundation subjects. Current legislation requires the Secretary of State to publish Programmes of Study and Attainment Targets for all core and foundation subjects.	Education Act 2002 sets out the National Curriculum as part of the Basic Curriculum.	Schools appropriately implement statutory Programmes of Study.
Basic Curriculum	Requirements for curricular provision in other subjects. Schools are able to determine the specific nature of this provision for themselves.	Education Act 2002 sets out what constitutes the Basic C-urriculum, including the National Curriculum, RE, sex education and careers education (and at present, work-related learning).	Schools appropriately implement requirements.
Local Curriculum	Supplementary areas of learning (including knowledge, understanding, skills and attitudes, and vocational learning options) and expansion and contextualisation of the content of subjects covered in the National and Basic Curricula.	Education Act 2002 only sets out the duty to deliver a broad and balanced curriculum. This includes a duty to deliver the Basic Curriculum (including the National Curriculum).	Schools and communities innovate and determine additional educational provision which they judge appropriate.

Brazil: The secondary school learning encompasses four fields of knowledge:

1. Humanities (History, Geography, Philosophy, Sociology and Arts);
2. Natural Sciences (Physics, Chemistry and Biology);
3. Mathematics;
4. Languages (Portuguese and *Língua estrangeira* — at least one foreign language, English and/or Spanish).

Mexico: Two pathways – academic and vocational skills

Preparatoria traditionally consists of 3 years of education, divided into 6 semesters, with the first 4 semesters having a common curriculum, and the latter ones allowing some degree of specialization, either in physical sciences (electricity, chemistry, biology, etc.) or social sciences (commerce, philosophy, law, etc.). The term *preparatoria* is most commonly used for institutions that offer a 3-year educational program that "prepares" the student with general knowledge to continue studying at a university. In contrast, the term *bachillerato* is most often used for institutions that provide vocational training, either in 2 or 3 years, so the graduate can get a job as a skilled worker, for example, an assistant accountant, a secretary or an electronics technician.

New Zealand:

High school students in New Zealand are taught a range of subjects. In year 9, the compulsory subjects are Mathematics, English, Physical Education, Social Studies and Science, as well as optional classes, such as Woodworking, Dance, Drama, Art, Graphics, Music, and a choice of languages, being mostly Māori, Spanish, French, German or Japanese, depending on the geographic location of the school and availability of teachers able to teach the respective subjects.

Norway: two tracks: academic and vocational

High school (Norwegian: "Videregående Skole", English: "Continuational School") in Norway is education and training that lead to general university admissions certification or vocational competence. Nearly all Norwegian students enter high school the year they become 16, and it is their 11th year of education. High school is normally provided with three years in school or with two years in school and two years in an enterprise. General studies primarily emphasize theoretical knowledge and lead to general university admissions certification. If one chooses general studies courses, you can enter university after three years. Vocational education and training leads to an occupation and to vocational competence with or without a craft- or journeyman's certificate. Choosing vocational education/training allows one to enter working life within 3–5 years. You also have an opportunity to take the supplementary programme for general university admissions certification.

High school in Norway is the most common education level as it provides the theoretical and practical education to work as a skilled worker e.g. a carpenter or chef. There are multiple basic programs to choose from and gives a complete understanding of the craft or profession obtained.

List of programs: 3 general studies	9 vocational studies

• Sports and physical education
• Music, dance and drama with programme areas
  o Music
  o Dance
  o Drama
• Specialization in general studies with programme areas
  o Arts, crafts and design studies
  o Natural science and mathematics studies
  o Languages, social science and economics studies
	• Building and construction
	• Design, arts and crafts
	• Electricity and electronics
	• Health and social care
	• Media and communication (with the option of general studies Vg3)
	• Agriculture, fishing and forestry (with the option of general studies Vg3)
	• Restaurant and food processing
	• Service and transport
	• Technical and industrial production

A craftsman's or journeyman's certificate is normally the only qualification needed to work in one's chosen profession. Further education is provided through technical school, which gives a more technical education at an advanced level, but is not college.

The People's Republic of China (PRC)

Generally, high school years usually have two semesters, starting in September and February. In some rural areas, operation may subject to agricultural cycles. Number of lessons offered by school on a weekly basis is very subjective, largely depends on the school's resource. In addition to normal lessons, periods for private study and extracurricular activity are provided as well. The academic curriculum consists of Chinese, Mathematics, English, Physics, Chemistry, Biology, Geography, History, Music, Fine Arts, PE, Technology, Computing etc. Some schools may also offer vocational subjects. Generally speaking, Chinese, Mathematics and English are considered to be the three main subjects as they will definitely be examined in Gaokao. In most provinces, students also need to be examined in either natural sciences, which incorporate Physics, Chemistry and Biology, or social sciences, which incorporate Geography, History and ideology & politics.

Philippines New G12

Core subjects per year level are Mathematics, Science (General Science, Biology, Chemistry, and Physics for 1st, 2nd, 3rd, and 4th year respectively), Filipino (including Philippine Literature), English (may include Literature), History (Philippine History, Asian History, and World History for 1st, 2nd, and 3rd year), and Economics (4th year students).

In selective schools, various languages may be offered as electives, as well as other subjects such as computer programming and literary writing. Ethnic Chinese schools have language and cultural electives. Preparatory schools usually add some business and accountancy courses, while science high schools have biology, chemistry, and physics at every level.

In 2012, the K-12 education system was introduced to all public schools and private schools nationally. Consequently, the name for all the levels in high school became Grade 7, Grade 8, and so on, and then by SY 2015-2016, the Grade 12 will then be implemented to those schools which still follow the 10-year basic education system. As the aim of the new K-12 curriculum is to help students become employed immediately after schooling, grades 11 and 12 will have components that specialise in this.

ANNEX 9 COMPARISON OF COMPETENCY BASED CURRICULUM DEFINITIONS

Performance Levels / Levels of Competency

This term is used to refer to four levels of student achievement.

The four levels are advanced, proficient (grade level), basic and below basic. A description of each level is as follows:

Advanced: Advanced students demonstrate superior performance well beyond proficient grade-level performance.

They can apply established reading, writing and mathematics skills to solve complex problems and complete demanding tasks on their own.

They can make insightful connections between abstract and concrete ideas and provide well-supported explanations and arguments.

Proficient: Proficient students demonstrate solid academic performance for the grade tested and are well prepared for the next level of schooling.

They can use established reading, writing and mathematics skills and knowledge to solve problems and complete tasks on their own.

They can link ideas together and explain the ways their ideas are connected.

Basic: Basic students show substantial skills in reading, writing and mathematics; however, they only partially demonstrate the abilities to apply these skills.

Below Basic: Below basic students fail to show sufficient mastering of skills in reading, writing and mathematics to attain the basic level.

Source: US Department of Education

Conceptual overview of assessment matrix

BLC skill assessment may be considered as consisting of various types of direct measurements that are determined by a matrix with two dimensions or axes: skill levels of BLCs (reading and writing, numeracy, and life skills) and skill domains (contexts or loci where the skills of literacy are applied). Four skill levels are defined, followed by domains.

Skill levels. To inform policy making, the measurement of literacy (reading and writing), numeracy, and life skills can be conceptualized as an attempt to place individuals on a continuum that is (for simplicity of description) comprised of four levels of ability: none or no ability in the designate area, prerequisite level, basic level, and advanced level.6 Each level is described below.

None inadequate or no ability level, refers to those individuals who, for all practical purposes do not possess even the rudiments of the skill domain in question. In the case of reading, for example, such persons could not write their name or even recognize letters of the alphabet.

Prerequisite level refers to possession of specific knowledge or specific sub-skills that support performance in some set of functional learning tasks. Skills at this level provide the building blocks for future learning. However, prerequisite skills alone do not cohere into a functional, basic learning

competency. In school-based terms, these isolated prerequisite skills are often part of the teaching content or curriculum of basic schooling, literacy campaigns, or informal programs.

Basic level defines functional competency in performing common applied tasks that involve any of the BLCs, as well as potential for future skill growth. Specifically, this level should be thought of as reaching a stage at which prerequisite skills have been retained and can be put to functional use in a more integrated way, and upon which more advanced skills may be developed. This level represents a reasonable approximation of the spirit of basic notion suggested in Jomtien EFA conference, though each country may need to define this level as best meets its own policy needs.

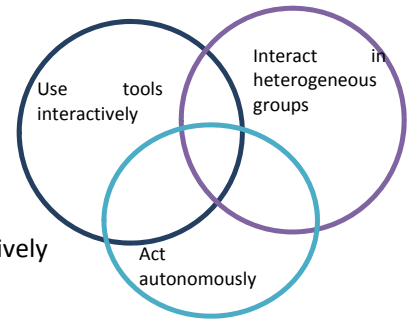
Advanced level refers to a level of skill equivalent to that normally achieved upon successfully completing a secondary school curriculum. However, not all secondary school graduates actually meet this level, and some persons without such a diploma do manage to reach this level of attainment, based on other experiences they have had. A person who is at an advanced level should also be able to integrate separate skills and sub-skills in order to meet changing social and economic demands.

Within any level described above, one can of course define and measure multiple subskills. Hence, each country will need to decide on the skill range it should examine

Source: UNESCO. (2000) *Assessing Basic Learning Competencies Among Youth and Young Adults in Developing Countries. EFA Assessment Survey*.

Key competencies in three broad categories

The OECD's Definition and Selection of Competencies (DeSeCo) Project's conceptual framework for key competencies classifies such competencies in three broad categories. First individuals need to be able to use a wide range of tools for interacting effectively with the environment: both physical ones such as information technology and socio-cultural ones such as the use of language. They need to understand such tools well enough to adapt them for their own purposes – to use tools interactively. Second, in an increasingly interdependent world, individuals need to be able to engage with others, and since they will encounter people from a range of backgrounds, it is important that they are able to interact in heterogeneous groups. Third, individuals need to be able to take responsibility for managing their own lives, situate their lives in the broader social context and act autonomously.



(1) Using Tools Interactively

Why: The need to keep up to date with technologies

The need to adapt tools to own purposes

The need to conduct active dialogue with the world

What competencies: 1) Use language, symbols and texts interactively

2) Use knowledge and information interactively

3) Use technology interactively

(2) Interacting in Heterogeneous Groups

Why: The need to deal with diversity in

pluralistic societies

The importance of empathy

The importance of social capital

What competencies: 1) Relate well others

2) Co-operate, work in teams

3) Manage and resolve conflicts

(3) Acting Autonomously

Why: The need to realize one's identity and set goals, in complex world

The need to exercise rights and take responsibility

The need to understand one's environment and its functioning

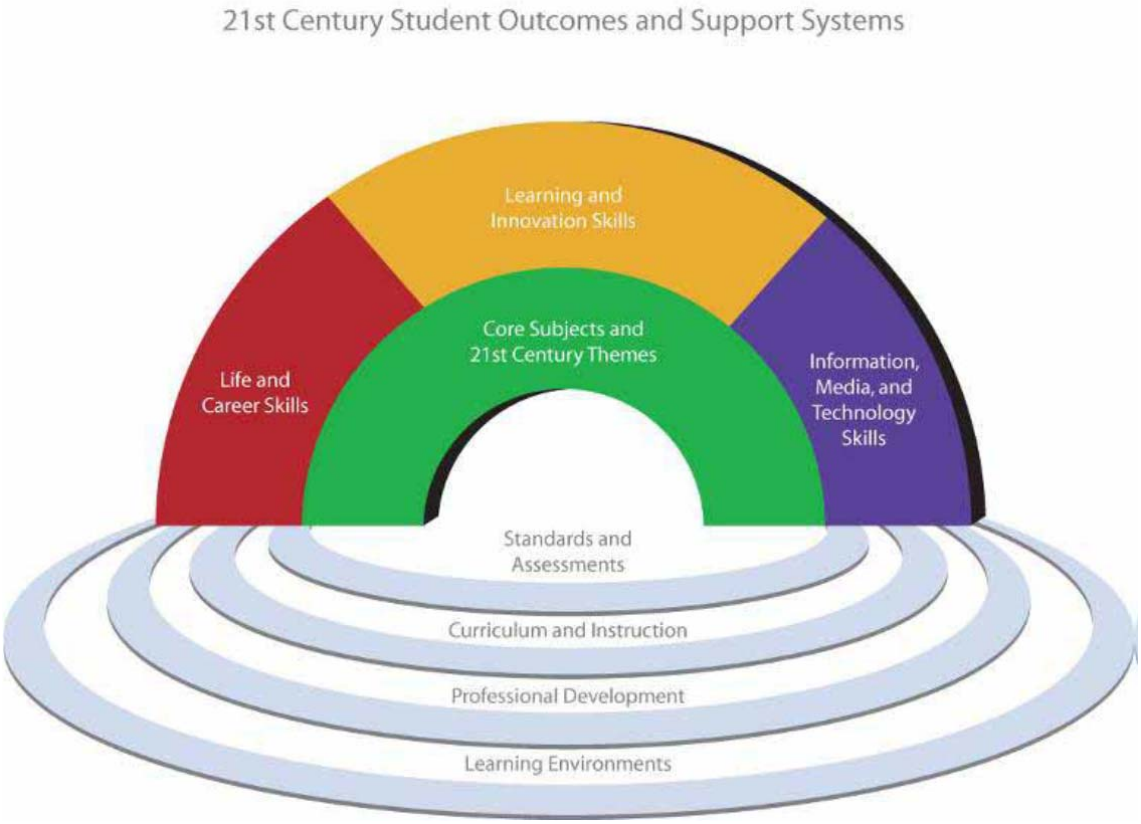
What competencies: 1) Act within the big picture

2) Form and conduct life plans and personal projects

3) Defend and assert rights, interests, limits and needs

Source: OECD, "The Definition and Selection of Key Competencies- Executive Summary" 2001

Competencies within a 21st Century Skills Curriculum



Source: P21 (2007) Partnership for 21st Century Skills

What are UK Secondary Education KS5 Minimum Standards?

The Department for Education has introduced new, interim minimum standards that apply to the 2011/12 academic year. For the first time, they cover all schools and colleges for 16- to 18-year-olds. Schools' and colleges' performance in A levels, other academic and vocational qualifications taken at level 3 (the same level as an A level) will be used to identify poor performance. By establishing separate measures for performance in academic and vocational qualifications, comparing like with like, we are able to build a clear picture of how institutions are performing in different areas of their level 3 provision.

In the 2011/12 academic year, a school sixth form or college will be seen as underperforming if its results show that:

- Fewer than 40 per cent of students achieve an average point score per entry in vocational qualifications set equal to the fifth percentile of providers nationally. In 2011/12 the fifth percentile was 194 points per entry; or
- Fewer than 40 per cent of students achieve an average point score per entry in academic qualifications set equal to the fifth percentile of providers nationally. In 2011/12 the fifth percentile was 172 points per entry.

It is possible for a provider to fail the vocational minimum standard or the academic minimum standard or both.

If a school sixth form or college falls below either the vocational or the academic point score thresholds the Department will give notice to the school or college that their performance is inadequate and needs to improve. This could be a verbal notice or a written notice. We expect Further Education colleges to follow a similar process as for schools.

Who and What is Included?

Qualifications

The standards are based on all level 3 qualification entries that students aged 16-18 take in schools and colleges. The standards use the same data that are reported in the KS5 performance tables.

Each level 3 qualification is defined as either a vocational or an academic qualification. Further details of which qualifications are classed as vocational and academic are given in the appendix.

There is a slight difference between the academic definition used in Key Stage 5 (KS5) minimum standards and the one used in KS5 performance tables. The definition used for minimum standards has been extended to include extended project diplomas, advanced extension awards and free-standing maths qualifications at level 3. The inclusion of these qualification types in the minimum standards ensures that all level 3 qualifications count towards one of the standards.

Further Education Providers

All maintained mainstream providers of further education included in the KS5 performance tables are in scope for the application of these standards. That includes local authority maintained school sixth forms, academy school sixth forms, 16-19 Academies, UTCs, Studio Schools, sixth-form colleges and general FE colleges. However any provider with fewer than 11 students taking either vocational or academic qualifications will be excluded from the corresponding minimum standard.

Students

Separate inclusion rules apply to the academic and vocational minimum standards. To be included in the academic minimum standards calculations, a student must be 16, 17 or 18 (age at the start of the academic year) and have been entered for at least one level 3 academic qualification with a size, based on guided learning hours, equivalent to at least one A Level, during the 2011/2012 academic year.

Similarly, to be included in the vocational minimum standards calculations, a student must be 16, 17 or 18 (age at the start of the academic year) and have been entered for at least one level 3 vocational qualification with a size, based on guided learning hours, equivalent to at least one A Level, during the 2011/2012 academic year.

Source:
http://www.education.gov.uk/childrenandyoungpeople/youngpeople/participation/b00218198/16-19-accountability/ks5-minimum-standards

ANNEX 10 INTERNATIONAL COMPARISON OF ASSESSMENT AND EXAMINATIONS

KEY ASSESSMENT AND EXAMINATION POLICY QUESTIONS

Assessment and Examinations System in Myanmar (based on Uganda Curasse Model)

Source: Uganda Curasse Project Reports, Cambridge Education 2013

What is the Policy for school assessment and examinations?

What are the responsibilities of each office/institution involved in secondary school student assessment at each level in the system (central, regional, township, school)?

What are the strengths and weaknesses of the current system of school assessment and examinations?

How could the present assessment and examinations system be improved (including use of BLC)?

What is different about the present system of assessment and examinations and the system that operated in Myanmar until 1998

Key Policy Questions

At the policy level, the questions likely to be raised might include:

- What can we do to ensure that as many students as possible graduate with an acceptable level of literacy – reading, mathematical and scientific?
- How can we best prepare graduates of our education system to face the challenges of the 21st century, and especially the technological challenges?
- What measures would increase the employability of graduates of our education system?
- How can we increase the average amount of time learners stay in education, and reduce the levels of failure and drop-out?

The role of the assessment system is to deliver certification. This certification has to respond to societal needs. Therefore, at the level of the individual unit of content, assessment will normally link very closely with the curriculum; but putting together a qualification, to say nothing of a system of qualifications, involves a different kind of thinking, at a more strategic level, which may to some degree lead curriculum.

Questions to be asked in the process of reforming school-based formative and summative assessment

Those involved in the assessment reform process should ask the following questions of formative and summative school based assessment:

(i) Does the summative assessment system (end of grade/end of school level exams) effectively differentiate student performance?

(ii) Is there too much focus on test / examination scores and little attention given to feedback to the learner?

(iii) Is marking standardised within a district or state – how is this done?

(iv) Is the transcript of marks attached to the leaving certificate?

(v) Does the school leaving certificate have any external significance since it is not used for entrance to university and is not used by employers for recruitment purposes?

REVIEWING EXAMINATION SYSTEMS[9] – GUIDING QUESTIONS

The following 20 guiding questions are intended to assist planners and managers in reviewing their examination system. The questions follow on from the key areas for improvement identified in the preceding section. The term 'authority' is used to refer to the organization responsible for examinations.

Assuring integrity of assessments

1. Has a risk assessment of examination security and supervision been carried out? Have areas of vulnerability been identified and action taken to minimize risks?
2. Does the authority have the backing of relevant regulations, legislation and law enforcement bodies to enable prompt action in cases of suspected malpractice; and are there appropriate penalties for offenders?
3. Does the authority have access to high-level, independent legal advice and assistance in handling complaints and dealing with cases of malpractice?

Reducing examination pressures

1. Is there scope for eliminating high-stakes examinations at the end of primary school and for providing greater access to upper secondary and higher education?
2. Is there scope for incorporating school-based assessments into the examination process and for allowing them to contribute to a significant proportion of final assessments?
3. Are there second-chance opportunities and alternative routes for students to gain entry into higher education?

Catering for an expanding and more diverse student candidature

1. Do standards allow the majority of students who are diligent in their studies to achieve a 'passing' grade, while providing the highest levels of challenge to the most able?
2. Are there rigorous processes for maintaining standards over time?
3. Does the authority use a combination of both norm-referenced and standards-referenced approaches to reporting results?
4. Are examinations offered for a range of subjects, including applied and vocationally oriented subjects?
5. Is there a qualifications framework that confers status to applied and vocationally oriented subjects and provides pathways to work and further study?

Assessing a wider range of curricular objectives

[9] Examination Systems. Asia-Pacific Secondary Education System Review Series No. 1, UNISECO 2010

1. Is there close alignment between the curriculum and the examinations?
2. Is there a systematic attempt to assess important outcomes that cannot readily be assessed in written examinations?
3. Are effective moderation procedures in place to enable assessment of these outcomes to contribute significantly to overall examination results?
4. Are innovative approaches being taken to measure important outcomes that cannot be assessed in written examinations, including use of new information technologies?

Assuring quality and gaining public confidence

1. Is close attention given to the recruitment and training of all examination personnel, especially part-time staff and teachers in schools assigned examination duties?
2. Is there a culture in which all assume responsibility for identifying weaknesses and improving quality?
3. Is an effective system of audit and internal controls in place?
4. Have examination processes been automated to improve efficiency and to eliminate human error?
5. Are there fair and transparent appeals processes in place to handle complaints and to compensate those whose performance has been adversely affected through no fault of their own?

International Comparison: Examination System Structures - functions, roles and responsibilities

Most countries have a single set of exit qualifications for secondary school graduation

Examination Administration: Some countries appear to have a reasonably simple system of examination administration, with a single organisation, typically the Ministry, responsible for examinations (e.g. Denmark, France, Hungary, Italy, Kenya, Lebanon, Malawi, Malaysia, Netherlands, New Zealand, Northern Ireland, Norway, Scotland, Sweden, Uganda, Wales, Zimbabwe).

Other countries have regional exam boards for each state or province (e.g. Australia, Canada, the PRC) or regional boards across countries (e.g. Carribean Examinations Council, West African Examinations Council).

Many countries have hybrid systems that defy classification. For example, in the US, there are national testing initiatives (e.g. SATs, ACTs, Advanced Placement Program) in addition to statewide tests. Public and private ownership of exam boards also coexist in the US.

Russia has a federal examination system, but many aspects of it are devolved to states.

Examination Board functions: Some countries have a single exam board to handle everything from setting examinations to issuing results, whilst others have different organisations involved in setting, administering and certifying examinations.

Alternative Examination Board Models

Nationalisation Several countries run the examinations through the Department for Education (eg national curriculum testing in England currently operated by the Standards and Testing Agency). With a single examination board problems of comparability of standards between separate awarding bodies does not arise, but there may be issues of comparability of standards over time, between subjects or between qualifications. A single body can lead to little motivation for diversity or change, and consequently not keeping up with the need for change. With scarce assessment expertise, a single examination board makes better use of resources. The government is in control of an important societal service, but there are disadvantages associated with direct political connection with examination results and governments often wish to have some distance from them for reasons of impartiality and public confidence, with none of the benefits of an autonomous body that functions independently from government.

Outsourcing on a contract basis - Through the Qualifications and Curriculum Development Agency, national curriculum tests were operated on a contractual basis. Advantages of this model are distance from political control, drawing upon expertise in other agencies and ability to change provider. Contracts could be drawn up for different operational functions, by subject area or by qualification type for the entire operation.

Outsourcing by subject area has the advantages that the entire operation would be joined up through a single organisation with responsibility and accountability and it could foster greater development of expertise in particular subject areas. Examination boards have significant logistical operations to deliver under tight time schedules with extraordinarily high demands for accuracy. Examination boards have invested heavily in their systems. Outsourcing by subject area might foster greater focus and connection with subject matter experts and create better leadership in disciplinary-embedded assessment. Expectations for comparability of standards between subjects would have to be tackled explicitly under such a system. Provision of small-entry subjects would also

need to be a requirement upon awarding bodies in this model, as it has already been noted that they must be cross-funded and will not be financially viable as stand-alone propositions.

Links with universities Historically, each of the awarding bodies in UK had ties to universities and there has been some discussion in the current debate about the merits of this and of having senior examiners from Higher Education.

REGIONAL EXAMPLE - INDIA

In India, board examinations refer to the public examinations that occur at the end of the 9th to 10th grade education (SSC), or at the end of the 11th to 12th grade education (HSC). The scores achieved in these exams are considered very important for getting into university, getting into professional courses or training programs, and even possibly in finding employment.

State Board Examinations

State board examinations are variously referred to as Madhayamik, Secondary State Certificate and Higher Secondary Certificate examinations. They are conducted and managed by each education board of the different states in the country. They do not take place simultaneously due to the differences between syllabi and the examination itself. The examinations are generally held in the months of February and March, and the results are out in May and June. Students have to apply for the examinations in November stating their personal details, subjects, and current educational status. Admit cards for the prescribed examination hall are received at the notified cell or their respective schools about 20-25 days prior to the commencement of the exam.

Examinations are offered for various fields which include Science, Maths, Social Studies, regional and foreign languages for SSC; Physics, Chemistry, Maths, Social Studies, basic Computer Science and basic Electronics, IT, Western Classical music and Indian classical music, Economics for HSC. Students follow a fixed pattern in choosing the subjects. The exam is conducted only in pen and paper format.

Procedure (CBSE)

Each of the examinations takes place simultaneously across the country, to ensure that questions are not leaked in advance across time zones. Security is usually high for these board examinations. The question papers are distributed by the overseeing board of education, and their contents are guarded closely until the exam begins. The examinations may include multiple sets of question papers as well. The candidates are issued identification passes in advance, which are presented to the staff at the examination site. The site itself must not be the same school where a candidate is from; to ensure impartiality, the candidate must travel to a different school to take the examination. For the same reason, the candidate may not identify himself/herself on the answer sheet except with an identity-masking number. Use of calculation aids other than logarithm tables, which are provided by the examination center, is prohibited. The examinations last about 3 hours per course.

CICSE

The COUNCIL was established in 1958 by the University of Cambridge Local Examinations Syndicate to ensure that its examinations become adapted to the educational needs of the country and assign the ultimate control of the same on the COUNCIL. The COUNCIL was registered as a Society under the Societies Registration Act XXI of 1860 on 19 December, 1967. The object of the COUNCIL is educational, and includes the promotion of science, literature, the fine arts and the diffusion of

useful knowledge by conducting school examinations through the language of English. The Council exists solely for educational purposes and not for purposes of profit.

Evaluation

The answer sheets are sent back to the board of education overseeing the certifications. The papers are evaluated based on examples of ideal answers. A false roll no. is attached to the answer-sheet before evaluation. Once the answers have been evaluated, the identity numbers are matched to the actual roll no. (and identity) of the candidate. The board then issues an official grade/score report for the exam to the candidate, as well as a certificate of completion in the case of the HSC exam.

Source: http://en.wikipedia.org/wiki/Board_examination

The Council for the Indian School Certificate Examinations (CISCE) is a private, non-governmental board of school education in India. It conducts two examinations in India: the Indian Certificate of Secondary Education (ICSE) and the Indian School Certificate (ISC). The CISCE was set up in 1956 at the meeting of the Inter-State Board for Anglo-Indian Education a proposal was adopted for the setting up of an Indian Council to administer the University of Cambridge Local Examinations Syndicate's Examinations in India. It is an all-India, but not a government sponsored board (unlike the CBSE and NIOS). It is based in New Delhi.

The Indian Certificate of Secondary Education (ICSE) Examination is a K-10 public board examination for students in India who have just completed Class X (equivalent to the first two years of the 4 year High School programme). Seven subjects are to be taken by the candidates, of which four are compulsory and three have a choice of subjects.

Similarly, the Indian School Certificate (ISC) Examination is a K-12 public board examination for those completing Class XII (equivalent to the end of the 4 year High School programme). Candidates must have English as one of their subjects, and then may choose either three, four or five more subjects to give exams for.

The CISCE does not accept private candidates, and they must come only through the (English language) schools affiliated to the CISCE. The language of examination is English, except the Indian language paper. At the end of examination, marks out of 100 are provided in each subject and a separate pass certificate is given containing the equivalent grades (like almost all other Indian educational boards). Note that apart from the CBSE and CISCE, all states in India also have their own state boards for High School education.

Source: http://en.wikipedia.org/wiki/Council_for_the_Indian_School_Certificate_Examinations

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ANNEX 11 TEXT BOOK REVIEW SUMMARIES – GRADE 6 TO GRADE 9

Grade 6 Summary of Curriculum Textbook Review

Content (Teaching Periods)	**Overload, outdated and gaps identified**	**Suggestions for new content**	**Suggestions for pedagogy and assessment**
Myanmar Prose (17 topics) Poetry (8 poems) Grammar (16 topics) (180 periods)	Some poems are outdated and some topics have too many paragraphs.	Texts (poems and lessons) should be updated and reduced. The names of the poets, the types of the poems and their prose should be included. There should be more contents which are relevant to their vocational skill, which would enrich their knowledge and improve their morality, and which would be easier to understand. The complete sets of exercises and questions in each lesson should be added. The grammatical structures and '9 kinds of wah sin ga' (parts of speech in Myanmar) should be explained with examples.	Experimenting, discussion, questions and answers, defining and explaining underlying meanings, discussing for correct classification of the grammatical structures with examples, filling the suitable meanings in the sentences, classification, matching, doing exercises of word forms, finding out and discussing the main ideas, developing sentences with words, practising writing by presenting own ideas based on the facts learned and observed from the environment and experiences should be applied.
English 14 lessons / 3 poems (216 periods)	Time allocation is insufficient because review exercises and some contents are overloaded. Grammar Patterns are not learnable.	The number of Reading Passages, Grammar Patterns and Review Exercises should be reduced. "How to Sing" CD and Work book should be provided attached with textbook. Some topics should be replaced by heroic stories, local folk tales, and scientific contents. Speaking (Dialogue/Conversation) should be included and tested. Some topics for Essay and Letter Writing should be prescribed.	Role play, doing exercises relevant to poems should be applied. Assessment and exam questions should be based on the types of exercises prescribed in the textbooks. There should be assessment and practical exercises on listening and speaking.
Mathematics Bk I (10 chapters) Bk II (9	Some lessons such as social mathematics, ratios, arithmetic are	The numbers and figures in some problems/sums should be changed in accordance with the present situation and time. In Maths I, Chapter 2, the	Group work, thinking skill, problem solving should be applied.

chapters) Content 12 chapters (252 periods)	outdated.	number of exercises should be reduced. In Maths II, the names of geometric shapes should be accompanied with terms in English.	
History (108 periods) **Myanmar History** (30 periods) **World History** (60 periods) **Myanmar-Thailand** **History (Pt 2)** (10 periods) **Revision** (8 periods)	World History: The lessons about South East Asian countries are outdated.	World History: The lessons about South East Asian countries should be updated to the current situation. There should be an expansion of exercises for every lesson.	
Geography **Myanmar** **World** **Practical** 22 chapters (108 periods)	No outdated topics.	There should be more expansion for lessons on land and water. Documentary films such as 'discovery' should be used to teach what is happening around the world. There should be supplementary exercises on practical map-reading contents.	The model of the globe should be used to teach the world's shape and size. Giving the students the chance to participate and observe. The type of assessment should be based on the CCA learning.
General Science 6 chapters (144 periods)	There are some difficulties in effective teaching due to overloaded contents in Chapter 4 and 6	There should be more additional contents on the useful ways to prevent natural disasters and to keep healthy and fit.	The types of assessment should be adapted to bring out the students' higher order thinking skills as the CCA is applied in teaching process.
Physical Education 5 chapters (72 periods)	Some topics are outdated.	A series of steps should be demonstrated with colorful illustrations. Some games should be updated, e.g. playing chess should be included instead of rubber band shooting.	New trainings should be provided.

Aesthetic Education **Music** **4 chapters** **Arts** **4 chapters** (36 periods)	No outdated, overloaded and content gaps.	Every step of dance should be described with colours. Prose of some songs, rhythmic notes and nationally standardized notes should be included. Songs should be depicted on flip charts. Seven patterns of melody should be clearly described with colors.	VCD should be used. Presentation, demonstration, observation, and cooperation should be applied. Processes of teaching/learning should be presented.
Moral and Civics (21 periods) +Union Spirit, Human rights (10, 5 periods respectively)	There is a little contextual interrelation with other lessons.	Some principles should be integrated and/ or updated in teaching. Moral lessons based on empirical evidence can be put in curriculum. Glossaries from rhyming homily should be illustrated with empirical evidence so that they are more understandable. Some topics suitable with current situation can be utilized. It can be integrated with other related lessons (e.g personal saving, house -keeping).	There should be brainstorming on Min-glar-tayar (38 principles). Projects should be assigned to students. Sharing and keeping records of experience among students. Asking students' feedbacks and assumptions by telling stories. Storytelling, group discussion, taking notes on assumptions and feedbacks, mutual discussion should be applied.
Life skills 12 topics (36 periods)	No outdated, overloaded and content gaps.	_	Teacher's well –planned preparation, expert knowledge on subject, and students' continuous learning process on topic are required for effective learning timing. Introducing by linking with lessons taught. (All inclusive discussion) Training under guideline of teacher (Inclusive/ group discussion), practising by Students (Identification and analysis of students' first-hand experience, brainstorming alternatives to deal problems, decision-making by group, coaching by trainer, initiating students into further projects for

			future should be applied.
Agricultural / Vocational 8 chapters (36 periods)			

Grade 7 Summary of Curriculum Textbook Review

Content	**Overload, outdated and gaps identified**	**Suggestions for new content**	**Suggestions for pedagogy and assessment**
Myanmar Prose (15 topics) Poetry (11 poems) Grammar (16 topics) (180 periods)	The contents of some topics are outdated.	The contents of some topics should be updated and reduced. The names of the poets, the types of the poems, the background stories of the poems and their prose should be included. There should be more contents which give health educational lessons, reflect Myanmar culture and life, and which would be easier to understand. The complete sets of exercises and questions in each lesson should be added.	Discussion, asking comprehension and concept-checked questions, defining and explaining underlying meanings, discussing for correct classification of the grammatical structures with examples, filling the suitable meanings in the sentences, classification, matching, doing exercises of word forms, finding out and discussing the main ideas, developing sentences with words, practising writing by presenting own ideas based on the facts learned and observed from the environment and experiences should be applied.
English 15 lessons 2 poems (216 periods)	Some topics are outdated and magical than knowledgeable and it could mislead students. Grammar Patterns are not learnable.	Fairy tales should be omitted. The exercises in each lesson should be related to the respective lesson. The poems should be included in test items. Modern agriculture, ICT, and Computer lessons should be included. Some topics for Essay	All 4 linguistic skills should be assessed. Speaking (Dialogue/Conversation) should be expanded and tested. Lecture and discussion methods, questions and answers, observation, storytelling, strip story method, role playing, simulation and games, demonstration, experimenting, pair work and group work cooperation should be applied.

		and Letter Writing should be prescribed.	
Mathematics I (12 chapters) II (8 chapters) (252 periods)	The lessons on Statistics are not relevant in nowadays. There are too many contents in lessons on Social mathematics. Some exercises are too many and difficult for students.	There should be a balance between the numbers of exercises in the chapters.	
History (108 periods) **Myanmar History** (30 periods) **World History** 3 chapters (60 periods) **Myanmar-Thailand History (Part 2?)** (10 periods) **Revision** (8 periods)	Myanmar History: The lessons about the Second Myanmar Era are outdated.	Myanmar History: the contents about courageous Myanmar heroes and kings should be included in details so as to trigger the patriotism and the protective spirit for one's country. World History: the current education, economics and social situations of the neighbouring countries should be included. There should be an expansion of exercises for every lesson.	
Geography **Myanmar** **World** **Practical** 17 chapters (108 periods)	No outdated topics. There are some difficulties in teaching how the world is formed in the universe.	The new findings about the planets should be added. There is a debate on whether there are 6 or 7 continents. There should be specific information. There should be more contents on the location of continents and oceans, the natural disasters such as earthquakes, volcano	Giving the students the chance to participate and observe. The type of assessment should be based on the CCA learning.

		eruption, etc, and ways to prevent them. More periods should be given to the lessons on studying on maps. The years should be updated. According to the news and discovery channel, there is a gastric sphere instead of metal. Such kinds of information should be updated. The types of economics and trades in Myanmar should be included to support the students' vocational process.	
General Science 6 chapters (144 periods)	There are some difficulties in effective teaching due to the overloaded contents in Chapter 4, 5 and 6.	There should be more additional contents on the causes of the natural disasters, environmental destruction and its effects. Human and science: there should be an addition of the cause of cancer under the topic DNA.	The types of assessment should be adapted to bring out the students' higher order thinking skills as the CCA is applied in teaching process.
Physical Education **5 chapters** **(72 periods)**		A series of steps should be demonstrated with colorful pictures. A series of steps should be demonstrated with colorful pictures. Chess game, international game, should be included instead of rubber band shooting.	Doing exercises, holding tournament, collective movement, demonstration, playing sport, competition, collective activity, collective movement practicing cooperation should be applied. Assessment will be conducted while doing exercise on a daily basis.
Aesthetic Education **Music** **4 chapters**		Songs should be depicted on flip charts. Yandanarbon song (To include prose)	Processes of teaching/learning should be presented. Group checking will be conducted along with learning process. Presentation, demonstration,

Arts **4 chapters** **(36 periods)**		Teaching Aids (VCD/ Tape) should be used. Every step of dance should be described with colours. VCD should be used. To put rhythmic notes Nationally standardized notes should be used. Processes of teaching/learning should be presented.	observation, and cooperation should be applied. Assess individual/ group by Q&A section.
Moral and Civics **(21 periods)** **+Union Spirit, Human rights** **(10, 5 periods respectively)**		Some lessons should be changed.	Rhyming homilies should be collectively presented. There should be a session to discuss each rhyming homily out of collected ones. Open discussion should be held by students on how to behave and pay homage to benefactors and good friends. Observation, group-discussion, brainstorming, Q&A session should be applied. Assessment should be done by keeping track of students' actions and behavior.
Life skills **13 topics** **(36 periods)**			Evaluating students' Participation in projects, asking questions in learning process, gathering feedbacks from students, introducing by linking with lessons taught should be applied. (All inclusive discussion) Training under guideline of teacher (Inclusive/ group discussion), practice by students (Identification and analysis of students' first- hand experience, brainstorming alternatives to deal problems, decision- making by group, coaching by trainer, initiating students into further projects for future should be applied.

Agricultural / Vocational **8 chapters** **(36 periods)**			

Grade 8 Summary of Curriculum Textbook Review

Content	Overload, outdated and gaps identified	Suggestions for new content	Suggestions for pedagogy and assessment
Myanmar Zartaka (15 stories) Poetry (15 poems) Grammar (12 topics) (180 periods)	The contents of some topics are outdated.	The contents of some topics should be updated, and easy to understand and give some lessons for students. Illustrations should be added for the crucial scenes in the plays or drama. The names of the poets, the biographies of the poets, the types of the poems, and the aims of the poems should be included. The complete sets of exercises and questions in each lesson should be added.	There should be specific instructions for the grammar. The teaching of how to compose several kinds of poems (especially verses with four syllables in a foot, lyric poems, experimental/contemporary poems) should be included so that the students will be able to learn the right methods for the composition of poems . Correcting the errors, categorizing, defining and explaining underlying meanings, discussing for correct classification of the grammatical structures with examples, filling the suitable meanings in the sentences, classification, matching, doing exercises of word forms, finding out and discussing the main ideas, developing sentences with words should be applied.
English 12 lessons 3 poems (216 periods)	Some topics are outdated and magical than knowledgeable and it could mislead students. Grammar Patterns are not learnable.	Grammar Patterns should be reduced. Some lessons should be reordered. Environmental and Computer lessons should be included. Some topics for Essay and Letter Writing should be prescribed.	Speaking (Dialogue/Conversation) should be expanded and tested. Lecture and discussion methods, questions and answers, observation, storytelling, strip story method, role playing, simulation and games, demonstration, experimenting, pair work and group work, asking students to recite the poems in order to improve their speaking skill should be applied. All 4 linguistic skills should be assessed.

			The background sound should be provided to attract the students' attention.
Mathematics I (15 chapters) II (7 chapters) (252 periods)	Some exercises are too many, or not relevant or too easy for students.	Location, angles, and land surveys (contents and figures) and taxes should be updated. There should be addition of models in Maths I, Chapter 13 and measurements in Chapter 15. There should be a balance between the numbers of exercises in the chapters.	
History (108 periods) **Myanmar History** (30 periods) **World History** 5 chapters (60 periods) **Myanmar-Thailand** **History (Part 2?)** (10 periods) **Revision** (8 periods)	Myanmar History: The lessons on the military, administration, economics, social, and cultural situations of the earlier periods are outdated. World History: The lessons on capitalism and nationalism are outdated.	There should be the linkage between the grades. World History: There should be inclusion about neighbouring countries and ASEAN countries. There should be an expansion of exercises for every lesson.	Brainstorming, questions and answers, group discussion, strip-story, more questions which would help students apply in real life situations and improve their high level thinking skills should be applied.
Geography **Myanmar,** **World,** **Practical** 23 chapters (108 periods)	No outdated topics. The maps are not clear. The acres, population, years for the agriculture, livestock, and forestry sectors are outdated.	The signs and the possible time of the storms, tsunami, how to react them should be included. The types of economics and trades in Myanmar should be included to support the students' vocational process. Modern agricultural	Giving the students the chance to participate and observe. The type of assessment should be based on the CCA learning.

		methods should be also included. There should be more contents for practical use.	
General Science 6 chapters (144 periods)	Human and Science: Some contents are outdated.	Earth and space: there should be more addition of global warming and weather changes and abnormality. Human and Science: Some contents should be updated.	The types of assessment should be adapted to bring out the students' higher order thinking skills as the CCA is applied in teaching process.
Physical Education **5 chapters** **(72 periods)**		A series of steps should be demonstrated with colorful pictures. Chess game, international game, should be included instead of rubber band shooting.	Assess by shooting questions Assessment will be conducted while doing exercise. Implementation, demonstration, playing sport, competition, collective activity
Aesthetic Education **Music** **4 chapters** **Arts** **4 chapters** **(36 periods)**		Myitta -Gone song (To include prose) Teaching Aids (VCD/ Tape) should be used. Processes of teaching/learning should be presented. Songs should be depicted on flip charts. VCD should be used. To put rhythmic notes	Group checking will be conducted along with learning process. Every step of dance should be described with colors. Presentation, demonstration, observation, and cooperation should be applied.
Moral and Civics **(21 periods)** **+Union Spirit, Human rights** **(10, 5 periods respectively)**		Mitta (loving kindness) should be clearly understood. Curriculum should focus not only on context but also on practical disciplines. Lessons can be	Benefits for citing "Mitta" should be taught after definition of "Mitta", sympathy and empathy have been taught. There should be a set of examples in teaching. It should be taught practically and to be obeyed by students in daily life.

		integrated. There should be a specific time set for citing "Mitta" in timetable.	Group- discussion Q&A session Assessment Discovery, group- discussion, assignation of projects, storytelling, sharing info & knowledge, observation should be applied. Assess by keeping track of students' actions and behavior. Examine by keeping record. Writing related essays and articles. Making record on results. Examination of facts from group-discussion
Life skills **12 chapters** **(36 periods)**			Introducing by linking with lessons taught. (All inclusive discussion) Training under guideline of teacher (Inclusive/ group discussion) Practice by Students (Identification and analysis of students' first- hand experience, Brainstorming alternatives to deal problems, Decision- making by group, Coaching by trainer, Initiating students into future projects Evaluating students' Participation in projects. Asking questions in learning process. Gather feedbacks from students.
Agricultural / Vocational **8 chapters** **(36 periods)**			

Grade 9 Summary of Curriculum Textbook Review

Content	Overload, outdated and gaps identified	Suggestions for new content	Suggestions for pedagogy and assessment
Myanmar	There are so many lessons	The contents of some topics should be updated and	The video tapes of "Myanmar Literature,

Ma-haw-tha-htar (one of the ten significant lives of Buddha before he attained the Enlightenment) (20 topics) Poetry (16 poems) Grammar (13 topics) (180 periods)	that time is insufficient to cover the lessons. The contents of some topics are outdated.	reduced. There should be more contents of literature (both for aesthetic enjoyment and informative or educational purpose) which are useful in their real life situation, which would enrich their knowledge and improve their morality, and which would be easier to understand. The names of the poets, the biographies of the poets, the types of the poems, and the aims of the poems should be included. Some poems should be rearranged according to the relevant seasons and months. The complete sets of exercises and questions in each lesson should be added.	Myanmar Language" which are broadcast from TV should be distributed to the schools. Discussion, asking comprehension and concept-checked questions, defining and explaining underlying meanings, discussing for correct classification of the grammatical structures with examples, filling the suitable meanings in the sentences, classification, matching, doing exercises of word forms, finding out and discussing the main ideas, developing sentences with words, practising writing by presenting own ideas based on the facts learned and observed from the environment and experiences,
English 12 lessons 4 poems (216 periods)	Time allocation is not sufficient for some lessons and supplementary grammar exercises. Review Exercises are overloaded. Some lessons are outdated. Grammar Patterns are not learnable.	Time allocation should be expanded for some lessons and supplementary grammar exercises. Grammar Patterns should be reduced. Some lessons and review exercises should be reordered and updated. Speaking (Dialogue/Conversation) as well as Grammar Exercises should be expanded. Some topics for Essay and Letter Writing should be prescribed.	Lecture and discussion methods, questions and answers, observation, storytelling, strip story method, role playing, simulation and games, demonstration, experimenting, pair work and group work. All 4 linguistic skills should be assessed.
Mathematics I (16 chapters) II (6 chapters)	There are so many lessons that time is insufficient to cover the lessons.	Overloaded lessons and exercises should be reduced. Some lessons (contents and figures) should be updated.	Discussing, critical thinking, group work, experimenting, question and answers should be applied

12 chapters (252 periods)	Some exercises are too many, or not relevant or too difficult for students.	Two digits system should be added as it can be useful in computer application.	
History (108 periods) **Myanmar History** (30 periods) **World History** (60 periods) 8 chapters **Myanmar-Thailand** **History (Part 2?)** (10 periods) **Revision** (8 periods)	There are so many lessons that time is insufficient to cover the lessons. Some maps and illustrations are not clear. The numbers of exercises and questions which ask for students' critical thinking are not sufficient.	Extra time should be provided for some topics. More exercises and questions which ask for students' critical thinking should be added. Myanmar-Thailand History should be removed due to the time restriction and maintenance of the relationship between neighbouring countries.	Brainstorming, questions and answers, group discussion, strip-story, more questions which would help students apply in real life situations and improve their high level thinking skills should be applied.
Geography **Myanmar,** **World,** **Practical** 25 chapters (108 periods)	No outdated topics.	The numbers/figures of towns, cities, population, industrial zones should be specifically mentioned. The numbers of the islands, volcanoes should be specifically mentioned in the lessons on South East Asian countries and neighbouring countries. There should be more sums on scales. There should be more contents for practical use.	Giving the students the chance to participate and observe. The type of assessment should be based on the CCA learning.
General Science 6 chapters (144 periods)	There are some difficulties in learning due to the overloaded contents on forestry, fertile top-soil, and animal reproduction.	Introduction to science: there should be more specific facts. Living things: there should be addition of diseases relevant to nowadays situation. Matter: there should be the basic information/introduction about nuclear gas and compound.	The types of assessment should be adapted to bring out the students' higher order thinking skills as the CCA is applied in teaching process.

	There are some difficulties in teaching process due to the insufficiency of teaching aids and practical tools.	Energy: some contents should be updated (e.g. the contents on digital cameras, modern spectacles and contact lens instead of ordinary ones. Earth and science: there should be inclusion of natural disasters such as Nargis, Tsunami, earthquakes, and basic information on weather. Human and science: there should be inclusion of the development of ICT.	
Physical Education **5 chapters** **(72 periods)**		A series of steps should be demonstrated with colorful pictures. There should be an overall physical exercise in curriculum. International rules and regulations should be used. A series of exercise steps should be demonstrated with colorful pictures. Some new lessons should be put. Colorful pictures should be used in teaching.	Doing exercises, holding tournament, collective movement Demonstration Assessment will be conducted while doing exercise on a daily basis
Aesthetic Education **Music** **4 chapters** **Arts** **4 chapters** **(36 periods)**		Colorful paintings by teacher should be put as models. There should be a skilful trainer in painting. There should be a marking scheme to make assessment. • "Myanma-Mu-Mann"song (To include prose) • Teaching Aids (VCD/ Tape) should be used. Every step of dance should be described with colors. VCD should be used. ▪ To put rhythmic notes ▪ VCD should be applied. Nationally standardized notes	Teaching and learning processes with clear instructions should be presented. Presentation, Q&A, Illustration, observation, and participatory method should be used. Make assessment individually or group. Processes of teaching/learning should be presented. Presentation, demonstration, observation, and cooperation should be applied. Flip charts should be

		should be used. Picture of a long drum set should be put.	used. Assess individual/ group by Q&A section. Processes of teaching/learning should be presented. Presentation, demonstration, observation, and cooperation should be applied. Group checking will be conducted along with learning process. Processes of teaching/learning should be presented. Steps of dance routine should be depicted on flip charts. Presentation, Illustration, observation and participatory method should be used.
Moral and Civics **(21 periods)** **+Union Spirit, Human rights** **(10, 5 periods respectively)**	Teaching period cannot be enough.	Teaching period will be enough if it is taught within time frame. It should be taught in grade 6. Glossaries which are easy to understand should be used in teaching. Teaching and learning aid should be supported well. Stories and case studies should be provided. Case studies and other relevant examples should be used in teaching. Relevant stories and examples should be used. Lesson $5^{th,}7^{th}$, and 8^{th} should be taught continuously.	Observation, exploration, story telling Make assessment by keeping record of discussion. Question& Answer
Life skills **10 chapters**			Introducing by linking with lessons taught.

(36 periods)			(All inclusive discussion) Training under guideline of teacher (Inclusive/ group discussion) Practice by Students (Identification and analysis of students' first-hand experience, Brainstorming alternatives to deal problems, Decision-making by group, Coaching by trainer, Initiating students into further projects for future Evaluating students' participation in projects. Asking questions in learning process. Gathering feedbacks from students.
Agricultural / Vocational **8 chapters** **(36 periods)**			

ANNEX 12 TEXT BOOK REVIEW SUMMARIES – GRADE 10 AND GRADE 11

Grade 10 Summary of Curriculum Textbook Review

Content	Overload, outdated and gaps identified	Suggestions for new content, pedagogy and assessment
Myanmar Content Prose Poetry Grammar Essay and letter writing	Insufficient time to cover curriculum 36 weeks teaching / 4 weeks assessment	Improve writing skills Improve teaching method: role play, storytelling, discussion Assessment methodology – improve exercises, role play and assess for understanding
English content	Time insufficient, some outdated content and gaps Different courses have been developed in primary and secondary	Current topics are needed Reading passages should link to exercises and vocabulary Improve methods using observation, role play, storytelling and Q&A Improve assessment through student participation in role play, dialogue / conversation, reading passages and some close type questions unseen included in exam questions
Mathematics content	Some exercises should be deleted or moved Some topics should be added One chapter should be divided into two Move some topics from G11, and check on scope and sequence from G9	New examples should be added Include simplified examples Add more interesting and relevant problems
Physics content	Some sections are outdated and some overload so topics cannot be covered in the time available	Examples of new approaches to assessment are needed from reference books and internet eg O level examples
Biology content	Difficulty of learning in English Remove topics where there is content overload Revise and update outdated information	Common / local examples are needed Sequential topics are needed

	More information is needed in some sections Some sections need to be moved	
History Myanmar History (80 periods) World History (100 periods)	Sufficient time – some overloaded topics content needs to be reduced No content gaps and no outdated content Lack of relevant teaching resources (diagrams, maps etc) – images need to be inclusive and representative of all groups	New pedagogy should include brainstorming, strip stories, demonstration method, group work Assessment should be conducted at the end of each lesson through short/long questions, continuous assessment to provide feedback to students Improve creative thinking skills
Geography (180 periods)	Climate change is an important topic for Myanmar and can be a means to influence social and economic change There is content overload so topics should be reduced and difficult content should be simplified	Pedagogy should include more participation and excursions Critical thinking methods should be encouraged (examples are needed) Theoretical concepts should be related to practical examples Link to Grade 9 content
Economics (180 periods)	Information is outdated – eg population census and income information not changed since 2003-04. Current content is not related to environmental issues, land use, etc Diagrams and new data needed eg relating to mining and minerals, monetary systems and construction industry developments	Assessment through observation and teacher marks given at the end of a lesson In future updated information will be available on internet and students will be able to conduct their own research (MY)
Moral and Civics Co-curriculum 36 periods per year / one period per week	Some overlapping topics and some gaps If the periods are taught then there is enough time	Democracy and citizenship should be introduced Learner centred approach should be applied with assessment by project With no examination the course is not covered in all schools if the time is needed to complete an exam subject curriculum CPR (Comprehensive Personal Record) is

		completed even when the topic has not been taught.
Physical Education Co-curriculum 36 periods per year	There is too much content with 7 sports No content gap	Assessment should include BLC – attitude, skills and knowledge (MY)
Life Skills Co-curriculum G10-11 = 18 periods per year G6-9 = 36 periods per year	Knowledge and skills based	Assessment – teacher observes skills before, during and after the lesson G11 not an exam subject so teachers are not teaching
Aesthetics - Art	Not overloaded / not outdated No content gaps	Colourful illustrations needed in TB Instructional process should be described in detail Assessment of group work and individual work should be included and teachers should be well prepared
Aesthetics - Music	No overload or outdates content or gaps	CDs needed for traditional and modern song and dance

Key Issues to be addressed in the review process

Some high level decisions needed on overall structure – curriculum subjects, examinations, policy and objectives; curriculum framework document will need to be drafted to provide the foundation for development and implementation of the new curriculum (Working Committee).

Decisions needed at Working Committee level with advice from the TAP for inclusion of cross-cutting issues – 21st century skills: democracy and citizenship; peace building in education; soft skills; vocational skills strands in SES; implementation of co-curricular (non-examined) subjects; competency based curriculum and BLC (technical paper and clear strategy needed).

Other decisions on change of content, removal, replacement, etc need consensus from curriculum experts and a careful check of the scope and sequence (horizontal and vertical) as changes are made (Technical Advisory Panel)

Actual revisions to content detail will be made by the CDT team (Technical Working Group).

A record of changes (with topic / chapter references) should be maintained during the revision process so that teachers and teacher educators are clear on the change from old to new curriculum.

Major changes to content, pedagogy and assessment should be trialed with students and teachers.

Capacity development of CDT teams is needed

Strategies are needed to support curriculum implementation – pre-service and in-service teacher education, reform of school supervision and performance monitoring, and capacity development of teacher educators and school supervisors.

Structure of the Life Skills course (consistent for all grades)

Objectives

Knowledge

Attitude

Skills

Competencies

Teaching Learning Materials

Teaching Learning Process

- Introduction
- Modeling
- Practice
- Key messages
- Assessment (observation, Q&A, etc)
- Follow up activity
- Teachers note (for teachers)

One TB per 3 students for Life Skills G1-11 plus TG supplied to all schools

NOTE: structure is different for subjects - Should we standardize for all subjects?

CDT team had some differing views on this point – needs further discussion to reach consensus

Future Curriculum Review Tasks

- Review definitions of terminology and examples of soft skills / concepts for different subjects eg. critical thinking in science and maths subjects – get the team to make up more examples

Grade 11 Summary of Curriculum Textbook Review

Content	Overload, outdated and gaps identified	Suggestions for new content, pedagogy and assessment
Myanmar Content Prose Poetry Grammar	Independent writing activities, more variety of literature should be added, more variety of writing styles needed including present day text	Texts should be updated and more varied. New pedagogy should include more discussion, dramatization, simulation and modeling. Students should write their own version of text after reading. Change from past to present vocabulary. Use of exposition and argumentation
English content 7 poems in the text and 5 sections in each unit (i) pre-reading; (ii) reading; (iii) vocabulary (iv) grammar (v) writing	Time insufficient in each teaching period to cover the text; some outdated content and some additional text needed. Some vocabulary and grammar should be revised to fill the gaps.	Some sections need to be updated and content gaps in vocabulary and grammar filled. Pedagogy should include methodology for higher order thinking skills development Exercises should be in question format, with more quizzes than cloze type exercises. Reduce the overcrowding of reading and writing exercises; emphasis more questions for listening and speaking practice.
Mathematics content 12 chapters	Only 7 chapters are taught as that is enough to pass the exam – not all gets tested and not enough time to teach all chapters Some content gaps are identified. One section where there is content but no exercises. One chapter where there are too many concepts to learn.	Similar problems should be reduced Problems should be described according to the marking scheme Some chapters should be reallocated from Grade 11 to Grade 10 Missing exercises should be added Some overload concepts eg Trig (Ch 11) should be introduced in Grade 10 Pedagogy should include discussion method, problem solving method and group work Assessment should require students to answer all questions and use questionnaires so that students study all

		chapters. ”Nowadays most students do not study all chapters as they have a chance to choose problems”. All chapters are basic and connected with high educational objectives
Physics content Subject may be divided into six parts: (i) Mechanics (ii) Heat (iii) Wave and Sound (iv) Optics (v) Electricity and Magnetism (vi) Modern Physics	There are 14 chapters and not enough time allocated for each chapter Some sections can be moved and extended in Grade 12 (Ch 3, Ch 6, Ch 7, Ch 14) Some outdated content should be summarized No gaps	Pedagogy should include student – centred approach, question and answer, lecture, discussion, observation, problem solving, laboratory technique and demonstration.
Chemistry content	More exercises needed to calculate More problem examples needed concerned with “Laws” More problem solving questions are needed	More practical time is needed and use of teaching learning materials while teaching Pedagogy should include asking short questions and discussion with students while teaching. Use of problem solving methods Practical demonstration and video examples Conceptual teaching learning method Assessment – give practical work and assignments
Biology content 14 chapters 180 x 45 min periods in 1 year	The allotment of time is insufficient Some content is duplicated Figure 4.1 does not match the content Some definitions and content are out of date. Incomplete table and	Some additional information needs to be added and some content and definitions updated. Figures and the associated text needs to be checked and corrected. Some clearer explanations needed and some sections revised. Tables and diagrams need to be checked to make

	missing diagram noted. Some content gaps identified and some explanations not complete	sure they are included and correspond to the text – all diagrams should be colourful and clear. Pedagogy should include lecture and discussion (with diagrams) group work, observation, demonstration and laboratory technique.
History Myanmar History (80 periods) World History (100 periods)	Insufficient time No clear illustrations Current events are not included although from independent period to current in history is included In World History current numerals, data, names, measurement concerning ASEAN are not included No content gaps and no outdated content	Teaching periods should be added and pictures made clear. More updated facts and events should be added. Numbers, data and events concerning ASEAN should be updated and added. Pedagogy – brainstorming, group discussion, pictorial method, demonstration method, and question and answer. Assessment – after each lesson review objectives, short questions and long questions (use all forms of questions) Teacher should provide immediate feedback for continuous assessment during teaching and learning.
Geography (180 periods)	Some titles in Economic Geography are almost similar to those in Geography of Myanmar. Some titles need to be made clear. Some conceptual content needs to be simplified and made clearer. In Practical Geography there are too many topics and it should be reduced.	When writing the course revise the amount of detail – too many concepts for students to memorise. Avoid students having to memorise nearly the same topics / content (repetition/duplication) such as minerals and industry included in both Geography of Myanmar and in Economic Geography Pedagogy: learning by doing , observation and field trips Assessment: questions on observation – maps, application and thinking In Singapore GCE A Level study can be optional or compulsory Questions should be set up like GCE O Level to emphasise more on “learning by watching maps” and “learning by

		thinking" but not on memorisation
Economics (180 periods)	No content overload No outdated content No content gaps	More detail should be added Examples in practice should be given for thinking skills Performance assessment should be added at the end of each chapter
Moral and Civics Co-curriculum 36 periods per year / one period per week	No overload if teaching is systematic Teaching style should be revised in some lessons. Conceptual gap between lessons and G.9-10 content not related to G.11 content	Good actions in G9-10 content should be linked to G11 content. Lessons in which social welfare is included should be prescribed. Lessons should be updated and easy to understand Pedagogy: Observation, Group Discussion, thinking and sharing Assessment: use experimental process. Discussion based on the real situation and group by group presentation to the class.
Physical Education Co-curriculum 36 periods per year	Not enough time Some exercises should be updated Some new exercises should be added	Pedagogy: Game, competition, demonstration, experimentation, group working Assessment: assess the actual performance
Life Skills Co-curriculum G10-11 = 18 periods per year G6-9 = 36 periods per year	Knowledge and skills based	Assessment – teacher observes skills before, during and after the lesson G11 not an exam subject so teachers are not teaching
Aesthetics – Fine Arts Sketch Describe Imaginary Creation	Not enough time allocated Not outdated No content gaps	Teachers Manual should be provided. Pedagogy: Complete procedures for teaching and learning should be described Assessment: evaluation of the individual or group work. Assessment must be included
Aesthetics – Music	Time allocation is enough Not outdated	VCD / tape is needed for paraphrasing Plots of dance should be described in

Singing Dancing Playing General knowledge of music	No content gaps	colour Notes should be changed to Myanmar form Famous puppets should be described in colour Pedagogy: teaching learning methodology should be described. Charts with songs and plots of dancing should be used Assessment : evaluate group work while teaching
Vocational Education - Basic Agriculture Education 15 chapters 36 periods	No overload, outdated content or content gaps NOTE: objectives are very good	Assessment should include examination twice a year, tutorial type and practical work to assess individual and group work. Fields are needed to work in Tools are needed Qualified teachers are needed

Key Issues to be addressed in the review process

English as the language of instruction for maths, physics, biology and chemistry – could the English curriculum be changed to English for Study Purposes in Grade 10 and 11 (and 12)?

Reform of Matriculation Examination

Solve key problems:

Time is insufficient solutions: reduce content / increase time allocation

Difficulty of learning in English solutions: teach in Myanmar / teach English for Study Purposes in English curriculum

Colourful diagrams/illustrations needed in textbooks or posters

Not all curriculum is taught as not all is tested

Recommended reference books which are relevant to pre-vocational subjects

Source: Basic Education School Management Refresher Course. Administration and Assessment Reports September, 2012, DEPT MOE

1. MOE, Education Programme and Training Heading Department, Prevocational Education, Industrial and Handicrafts (BEMS), 2000, July.
2. MOE, Education Programme and Training Heading Department, Prevocational Education, Industrial and Handicrafts (BEHS), 2000, July.
3. MOE, Education Programme and Training Heading Department, Prevocational Education, Agriculture and Livestock (BEMS), 2000, July.
4. MOE, Education Programme and Training Heading Department, Prevocational Education, Agriculture and Livestock (BEHS), 2000, July.
5. MOE, Education Programme and Training Heading Department, Prevocational Education, Domestic skills (BEMS), 2000, July.
6. MOE, Education Programme and Training Heading Department, Prevocational Education, Handicraft (BEHS), 2000, July.
7. MOE, BEMS, Life Skills, Moral and Civics, Prevocational Education, (Industrial and Handicrafts, Agriculture, Domestic skills) Teachers Manual, 2006, November.
8. MOE, Teachers' Manual (BEMS) which was presented at the Seminar on Upgrading National Education Special 4 year Project (2000-2001)
9. MOE, Teachers' Manual (BEHS) which was presented at the Seminar on Upgrading National Education Special 4 year Project (2000-2001)