Proceedings of the International Symposium

National Educational Testing and Assessment in ASEAN: Share and Learn

3-6 September 2013

Centara Grand at Central World

Bangkok, Thailand

Organized by

National Institute of Educational Testing Service (Public Organization), Thailand

Somwung Pitiyanuwat & Samphan Phanphruk—editors

Proceedings of the International Symposium

National Educational Testing and Assessment in ASEAN: Share and Learn

1. National Institute of Educational Testing Service (Public Organization)
2. National Educational Testing and Assessment

First published 2014 by the National Institute of Educational Testing Service (Public Organization)
128 Phyathai Plaza, 36th Floor
Tungphyathai, Rajthevee, Bangkok 10400
Tel. (662) 217-3800
Fax. (662) 219-2996
E-mail: webmaster@niets.or.th

Printed in Thailand by Prigwhan Graphic, Co. Ltd.
90/6 Charansanitwong 34/2, Arun Amarin, Bangkok Noi, Bangkok 10700
Tel. (662) 424-3249, 424-3252
Fax. (662) 424-3249, 424-3252
E-mail: prigwhan54@hotmail.com

Contents

Preface

The international symposium on *National Educational Testing and Assessment in ASEAN: Share and Learn* was organized by our National Institute of Educational Testing Service (Public Organization) on 3-6 September 2013 in Bangkok, Thailand. The major aim of the meeting was to provide opportunities for both local and foreign participants in the national educational testing and assessment circle to share their experiences and learn from one another. The event was a huge success, after the first one held in 2010, in terms of the number of papers presented and participants attended. In particular, we were extremely pleased to have altogether fifteen country reports, including ten from ASEAN members. The presence of delegates representing ASEAN organizations/agencies was significant, as it was also our goal for the meeting to help establish regional cooperation on national testing and assessment. The participants also had a great opportunity to attend a workshop on *Multidimensional Item Response Theory* given by world renowned expert, Professor Mark L. Davison, PhD, from the University of Minnesota, who also gave a keynote address after the UNESCO Chief of Education Policy and Reform Unit, Gwang-Chol Chang, PhD, during the opening session. At the symposium, hundreds of academics and practitioners from schools, colleges, universities, and testing and assessment agencies actively joined the plenary and parallel sessions throughout the first two days. The attendants were also honored by the presence of the Deputy Prime Minister, H.E. Mr. Pongthep Thepkanjana, who graciously delivered his opening address and visited the symposium exhibition.

The record of the major events can be found in this publication. Readers can learn from the collection of country reports, policies and practices of national educational testing and assessment in ASEAN countries and those in Hong Kong, Japan, South Korea and Taiwan. NIETS very much looks forward to the co-development of an educational testing and assessment system in the region to allow for more student mobility that should help integrate and bring peace and prosperity among member countries in the future.

NIETS wishes also to thank all invited keynote speakers, distinguished delegates who took their time to write reports and share with the participants their experiences in national educational testing and assessment, and all participants. Thanks also go to all NIETS staff

members who worked so very hard, especially during the last three months before the event, to make the symposium successful.

Somwung Pitiyanuwat & Samphan Phanphruk
Editors

I. Ceremonial Speeches

Report on the 2013 NIETS International Symposium

by

Associate Professor Samphan Phanphruk, PhD

Director of the National Institute of Educational Testing Service (Public Organization)

at the opening ceremony of the 2013 NIETS International Symposium on

"National Educational Testing and Assessment in ASEAN: Share and Learn"

at 09:00 AM

on 4 September 2013

at Convention Centre A2, Centara Grand at Central World

****

Your Excellency,

Distinguished Guests,

Ladies and Gentlemen,

It is a great honor for the National Institute of Educational Testing Service (Public Organization) that His Excellency Mr. Phongthep Thepkanjana, Deputy Prime Minister, has come to grace our 2013 NIETS International Symposium with your presence.

This symposium initiated by NIETS, Thailand, stems from the conviction that national standards serve as the vital basis of educational reforms and frameworks of curriculum development, instructional practices as well as assessment of learning outcomes. The results of periodic standardized tests to measure if the standards have been met can also be used as the feedback data for continuous improvement of the educational practices. However, there are issues and challenges in national educational testing and assessment themselves that need to be responded to and studied extensively for them to become effective tools in educational policy and planning. In this regard, countries in the ASEAN region and beyond can share with and learn from one another their past and current practices, and their prospective networking could benefit all in the long run.

The symposium is being attended by some 400 Thai and foreign participants from fourteen countries. We are fortunate indeed to have with us world renowned keynote speakers and paper presenters from almost all of the ASEAN member countries as well as those scholars from East Asia. The symposium will last four days. There will be a pre-symposium workshop, plenary and parallel sessions on country reports and topics of interest as well as educational tours.

Your Excellency, at this auspicious moment, it is my duty and privilege to request you to declare open the international symposium on "National Educational Testing and Assessment in ASEAN: Share and Learn". Thank you.

Opening Address
by
His Excellency Mr. Phongthep Thepkanjana
Deputy Prime Minister
at the opening ceremony of the 2013 NIETS International Symposium on
"National Educational Testing and Assessment in ASEAN: Share and Learn"
at 09:00 AM
on 4 September 2013
at Convention Centre A 2, Centara Grand at Central World
****

Distinguished Guests,
Ladies and Gentlemen,

It is indeed a great pleasure for me to be invited by the National Institute of Educational Testing Service (Public Organization), to preside over the opening ceremony of this international symposium. To all the distinguished participants from overseas, I extend a very warm welcome to our country.

Distinguished Participants,

The present Thai government has as one of its key policies to reform the learning system in order to raise the quality of education to meet international standards. At the ministry level, it has also been declared that "education is on the national agenda" and that 2013 is "the year of reinforcement to raise the quality of education," in order to help accelerate the implementation of that key government policy. In this respect, specifically in the Thai context, an emphasis should be given to the development of teachers, tests and results assessment to meet the highest standards, in relation to the curriculum, the learning and teaching systems and to student development. In other words, curriculum and learning and teaching systems must be considered in testing and assessment so that the results of assessment are correct and related to the knowledge that students have been taught. The organizing committee of this symposium is therefore to be commended on its initiative to look into current issues and challenges in national educational testing and assessment, as tools to support educational reform and to develop students to meet an international standard of quality.

Moreover, the fact that this symposium has been arranged in collaboration with similar educational testing and assessment agencies in the ASEAN region and East Asia shows the very

good academic relations among participating countries and the prospect for more cooperation in the future. The cooperation will certainly contribute to the added success of the symposium, beyond what to share and learn from the presentations of country reports and discussions. The international nature of this gathering of guests and scholars is in itself an opportunity to enhance international understanding, which is much needed for the success of the regional cooperation effort.

Distinguished Participants,

I am confident that this symposium will help forge new directions and strategies for national educational testing and assessment to respond dynamically to the emergence of new issues and challenges, resulting in greater benefits for all concerned.

In wishing you every success in your deliberations, I now have much pleasure in declaring the Symposium open.

Welcoming Address

by

Professor Somwung Pitiyanuwat, PhD

Chairman of the National Institute of Educational Testing Service (Public Organization)

Executive Board

at the Welcome Reception of the 2013 NIETS International Symposium on

"National Educational Testing and Assessment in ASEAN: Share and Learn"

at 05:00 PM

on 3 September 2013

at M 1-4, 23rd Floor, Centara Grand at Central World

****

Distinguished Guests,

Ladies and Gentlemen,

On behalf of the National Institute of Educational Testing Service, I would like to wish a very warm welcome to all of you who are attending this international symposium on "National Educational Testing and Assessment in ASEAN: Share and Learn."

It is a great pleasure for us that this symposium has induced interest from scholars in national educational testing from thirteen ASEAN and East Asian countries. This unexpected reaction has inspired us to try our best in making arrangements for the program to best suit your preference and in making adjustments where we can, to make this meeting a fruitful one.

At NIETS, we believe that international links, exchanges in various forms, and forums for networking will help promote cooperation both intellectually and spiritually of all scholars, especially in the Asian region. In this communication-based and fast growing society, one country might learn from another how national educational testing and assessment systems have responded to challenges and external pressures and choose from the alternatives a model that is appropriate to its own society. This international symposium is one page of such cooperation, and I believe it is doubtless that other pages are waiting. At the end of our symposium on Thursday, August 5, I wish, therefore, to invite you, all distinguished delegates, to join the closed meeting on "Framework for ASEAN +4 Networking" to discuss what we can do next for our future cooperation and the development of a regional testing and assessment system.

Distinguished Delegates,

Ladies and Gentlemen,

In my capacity as Chairman of NIETS Executive Board, I would like to express my appreciation for the generosity of many groups of people who have contributed to the success of this symposium. Thanks also are due to the various organizations and institutions for the provision of resource persons. But the biggest round of applause must go to all distinguished participants. Without them and without their commitment, this meeting simply would not exist.

On behalf of NIETS, Thailand, I offer you our best wishes for a very pleasant stay in Bangkok in the next few days.

Thank you.

II. Pre-Symposium Workshop

Pre-Symposium Workshop

on *Multidimensional Item Response Theory: IRTPRO*

by Professor Mark L. Davison, PhD

Pearson/American Guidance Service, Inc. and John P. Yackel

Professor of Educational Measurement and Assessment

University of Minnesota

at 09:00 – 12:00 & 13:30 – 16:30

on 3 September 2013

at Venue: M 1-4, 23rd Floor, Centara Grand at Central World

****

NB: Converted from PowerPoint presentation slides

Morning Session

Unidimensional Item Response Theory and IRTPRO Software

Data Set

a. 21 Adjective checklist items
   - 11 Negative adjectives
   - 10 Positive adjectives

b. Dichotomously scored

c. Two theories
   - Unidimensional (positvely-worded items reverse scored)
   - Two-dimensional
      - Positive items measure positive affect
      - Negative items measure negative affect

Item Response Theory

a. Theoretical framework on which modern applications of testing are based
   - Item analysis
   - Computerized adaptive testing
   - Differential item functioning analysis
   - Test equating
   - Dimensionality analysis of items and subscores

b. Item Response Model: Statistical function showing the relationship between the probability of an observed item response, item parameter values, and person locations along ability/trait dimension(s)

Assumptions

a. Local Independence

- Conditional on trait (or trait vector), item responses are independent

b. Dimensionality

- Number of dimensions specified

c. Statistical function relating trait (or trait vector) to probability of a response

Unidimensional, two-parameter logistic model (2PL): Difficulty form

- $p_j = \frac{e^{a_j(\theta - b_j)}}{1+e^{a(\theta - b_j)}}$
  - p_j = probability of correctly answering item j
  - a_j = discrimination parameter for item j reflecting the slope of the response function
  - b_j = the difficulty parameter of item j
  - θ = the ability or trait level of the person expressed on the same scale as δ_j
- IRTPRO item characteristic functions

Unidimensional, two-parameter logistic model (2PL): Intercept form

- $p_j = \frac{e^{a_j\theta + c_j}}{1+e^{a_j\theta + c_j}}$
- c_j = intercept for item j
  - $c_j = -a_j b_j$
- All other terms defined as in previous slide

Item Characteristic Curve

- Plot of function with probability of keyed (correct)response on the vertical axis, and trait (ability) on the horizontal axis
- See ITRPRO plots for items 4 and 17
  - Blue line is item characteristic curve
  - Black is plot of 1 - p_j
  - Crossing point is item difficulty
- Also called
  - Item response function
  - Item trace lines

Test Characteristic Curve (TCC)

a. Function with expected total test score on the vertical axis and trait (or ability) level on the horizontal axis

b. Also called

- Test response function

IRTPRO Steps: Open Data File

a. Open IRTPRO student

b. Start new project

- IRTPRO Data (OK)

c. File

- Open
  - IRTPRO Data File (.ssig)
    - Select File name
    - Open

Calibration vs. Scoring

- Calibration: Process of estimating the item parameters a_j, b_j, and c_j
- Scoring: Process of estimating the person parameters θ
- Scale of θ is determined up to a choice of origin (0 point) and unit
  - Must fix two and only two parameters
  - $\mu(\theta) = 0, \sigma(\theta)$ = 1.0 (default) for every dimension
  - $\mu(\theta) = 0$, a = 1.0 (for Rasch model)

IRTPRO Steps: 2PL Calibration

- Open data file
- Analysis
  - Unidimensional
- Description Tab
  - Right click Test1 tab and Rename : "2PL Calibration of Items"
  - Title: "2PLCalibration of 21 Adjective Checklist Items"
- Items Tab
  - Select items
- Models Tab
  - 2PL (Default option)
  - Constaints Tab
    - Fix Values: $\mu 1 = 0.0$ and $\sigma 11 = 1.0$ (Default, Red indicates fixed)
- Options Tab
  - Miscellaneous
    - Select fit measures
    - Select factor loadings
  - Save
    - Item parameter estimates
- RUN

IRTPRO Steps: 2PL Person Scoring

a. Open data file

b. Analysis

- IRT Scoring

c. Description Tab

- Right click Test 1 tab and Rename: "2PL Scoring of Persons"
- Title: "2PL Scoring of Adjective Checklist Items"

d. Items Tab

- Select items

e. Models Tab

- 2PL (Default option)
- Read Parameter Values Tab
  - Select item parameter file and open

f. Scoring

- Select MAP

g. RUN

Printed Output

- 2PL Model Item Parameters
- Factor Loadings
  - Correlation of item with underlying trait
  - Guideline: Retain items with $\lambda > .3$
- $S - X^2$ Item Level Diagnostics
  - Null hypothesis: Item responses fit the model
  - Alternative hypotheisis: Item responsed do not fit
  - Asymptotically distributed as X^2 if null hypothesis is true
  - Guideline: Retain items $p > .05$ and $\lambda > .3$
- Item Information Function
  - Reliability
  - Test Information Function
    - Shows the Fisher information provided at 15 theta levels
    - Standard error is the $\sqrt{I(\theta)}$
    - Show Graph

- Response Pattern EAP scores
  - Bayesian Expected a posteriori score
  - People with same total score have different EAP esstimates if different response patterns
- Absolute fit measures
  - M_2, X^2, and G^2
    - Null hypothesis: Data fit 2PL model
    - Alternative hypothesis: Data do not fit 2PL model
    - Asymptotically distributed as X^2 if null hypothesis is true
  - RMSEA Guidelines
    - $RMSEA \leq .05$, close fit
    - .05 < RMSEA $\leq$ .08 good fit
    - .08 < RMSEA $\leq$ .10 acceptable fit

Printed Output

a. Comparative measures of fit

- AIC
- BIC

b. Select model with smallest AIC and BIC

Graphical

- Trace Lines
  - Item Characteristic Curves
- Item information fuctions
  - Shows region in which item is informative
- Total information iunction
  - Test information function
  - Shows region in which test is most and least informative
  - Shows standard errors of θ estimates
- Test characteristic curve

Rasch Model

- Same as 2PL calibration except
- Model
  - Constraints
    - Fix Values to 1.0 (discrimination parameters)
  - Free value
    - σ_{11}

Model Comparison

Measure	2PL	Rasch
# Degrees of Freedom	189	209
Misfitting Items	6	4
Reliability	.83	.87
-2 Log Likelihood	5058.51	5178.98
M2	1207.87	1470.56
RMSEA	.14	.14
AIC	5142.51	5222.98
BIC	5296.64	5303.71

Model Comparison: Likelihood Ratio Statistics

- $-2LL_{Restricted}$ - $-2LL_{Full}$
  - Restricted = Rasch
  - Full = 2PL
- Asymptotically distributed as X^2 with $df_{Restricted}$ - df_{Full} degrees of fredon
- 5178.98 - 5058.51 = 120.47
- 209 – 89 = 20
- $P < .001$

Exercises

a. Calibrate anxiety items with unidimensional 2PL model (first 11 items)

b. Score persons for anxiety using 2PL model

c. Calibrate anxiety items using unidimensional Rasch model (first 11 items)

d. Score persons for anxiety using Rasch model

Afternoon Session

Multidimensional Item Response Theory and IRTPRO Software

Review

a. Neither the Rasch or 2PL model fit the data well. RMSEA = .14

b. Two theories

- Unidimensional (positively-worded items reverse scored)
- Two-dimensional
  - Positive items measure positive affect
  - Negative items measure negative affect

c. Two-dimensional item response theory

- Simple structure (standard structure)

Simple structure

- Each item measures one and only one dimension
- Each item has a discrimination of zero on all but one dimension
- Multi-unidimensional
  - Multiple item sets; e.g negative-emotions items, positive-emotion items
  - Each item set is unidimensional

IRTPRO: Two-dimensional, 2PL, Simple Structure Model

- Same as unidimensional 2PL except
- Analysis
  - Multidimensional
- Items
  - Specify 2 dimensions
- Model
  - Constraints
    - Fix positive -emotion item discriminations to 0.0 along dimension 1
    - Fix negative-emotion item discriminations to 0.0 along dimension 2
    - Set parameter free value, covariance σ_{12}
- Walk through output

Practice

a. Estimate Scores

b. Score data File

- 2 scores for each person
- 2 standard errors
- Dimension 1 error variance
- Error covariance
- Dimension 2 error variance

c. Two scores are subscores

Subscores

a. In practice subscores are often substantially correlated

- Information is redundant
- If scores are highly correlated, 2 scores from multidimensional analysis do not add much information over and above 1 score from unidimensional analysis

b. At Minnesota, experimenting with alternative to simple structure designed to yield less highly correlated subscores

Simple Structure vs. Correlated Structure

a. Simple structure, along each dimension

- Some discriminations are equal
- Those discriminations are fixed to 0.0
- Covariance is freely estimated

b. Uncorrelated structure, along each dimension

- Some discriminations are constrained to be equal
- However, those discriminations are not constrained to be 0
- Covariance is fixed to 0

IRTPRO: Two-dimensional, 2PL, Uncorrelated Structure Model

- Same as unidimensional 2PL except
- Items
  - Specify 2 dimensions
- Model
  - Constraints
    - Constraing equal positive -emotion item discriminations along dimension 1
    - Constrain equal negative-emotion item discriminations dimension 2
    - Fix parameter free value, covariance σ_{11}
- Walk through output

Practice

a. Estimate scores

b. Walk through output

Unidimensional vs. Multidimensional Fit

Measure	Rasch	2Pl 1D	2PL 2D
# Degrees of Freedom	209	189	188
Misfitting Items	4	6	3
Reliability	.87	.83	.73, .76
-2 Log Likelihood	5178.98	5058.51	4748.47
M2	1470.56	1207.87	4673.74
RMSEA	.14	.14	.07
AIC	5222.98	5142.51	4834.47
BIC	5303.71	5296.64	4992.27

Unidimensional vs. Multidimensional Fit: Likelihood Ratio Tests

	Rasch vs. 2PL 1D	Rasch vs. 2PL 2D	2PL 1D vs. 2PL 2D
Likelihood Ratio Test	120.47	430.51	410.51
Significance Level	< .001	< .001	< .001

1D and 2D Score Correlations

	1D Rasch	1D 2PL	2DS
1D	1.000	.926	-.844
1DS	.926	1.000	-.618
2DS	-.844	.618	1.000

Model Comparison

Measure	Simple Structure	Uncorrelated Structure
-2 Log Likelihood	4751.22	4687.16
AIC	4837.22	4773.16
BIC	4837.22	4773.16

Dimension Correlations

	1D	1DS	2DS	1DU	2DU
1D	1.000	.926	.844	.831	.556
1DS	.926	1.000	.618	.597	.793
2DS	.844	.618	1.000	.993	.056
1DU	.831	.597	.993	1.000	.019
2DU	.556	.793	.056	.019	1.000

Dimension Reliability Estimates

Unidimensional	.81
Dimension 1 Simple Structure	.73
Dimension 2 Simple Structure	.76
Dimension 1 Uncorrelated	.76
Dimension 2 Uncorrelated	.61

Conclusions

a. The uncorrelated solution fit the data at least as well as the standard, simple structure solution

b. Uncorrelated solution dimensions are less correlated, and therefore each dimension provides more unique information which would tend to make its subscores more useful

c. However, the reliability of its second dimension was not as high. Items may need some revision to raise the reliability of that second dimension.

III. Keynote Addresses

Keynote Speech I

Assessment and Benchmarking of Learning Outcomes in the Asia-Pacific Region

by Gwang-Chol Chang, PhD

Chief, Education Policy & Reform Unit

UNESCO Bangkok

at 10:15 AM

on 4 September 2013

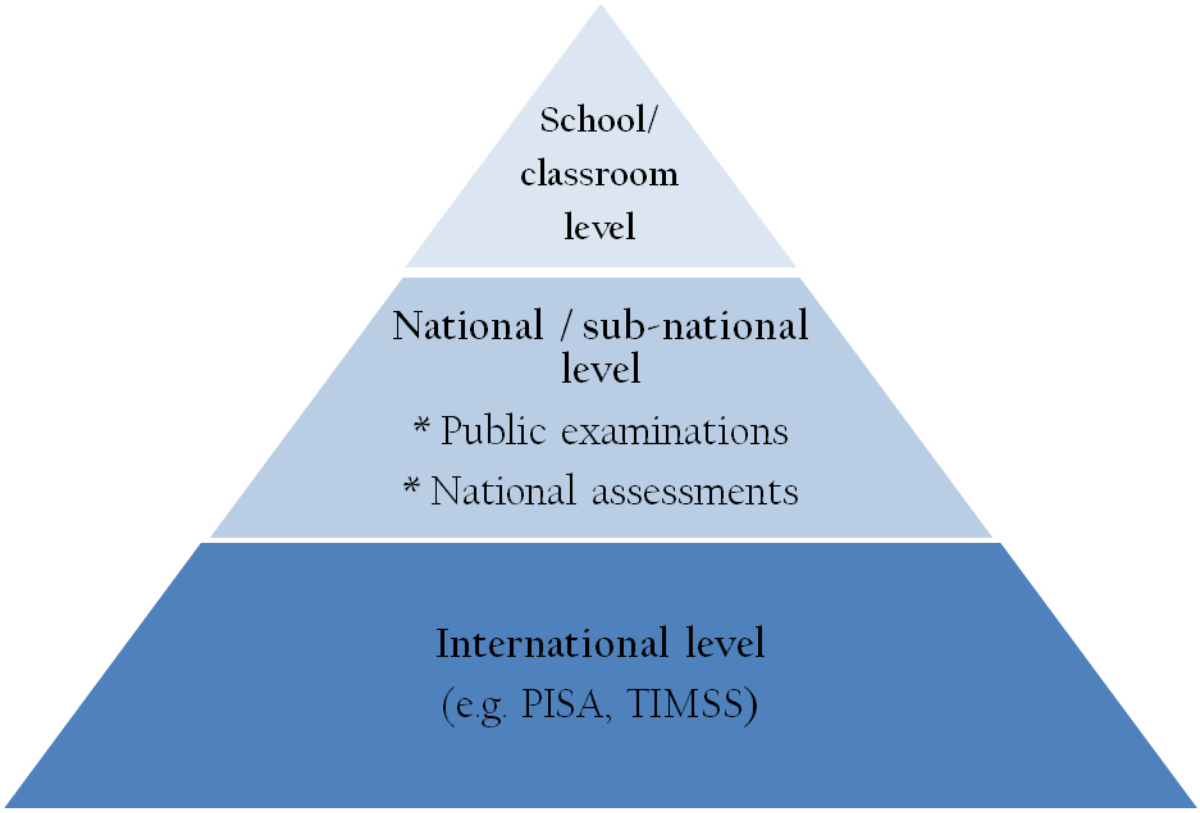
at Convention Centre A2, Centara Grand at Central World

****

NB: Converted from PowerPoint presentation slides

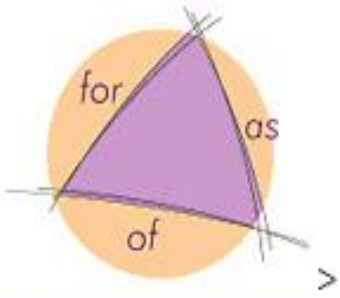
Introduction

A framework for discussion of assessment issues



Assessment of, for and as learning

Assessment FOR learning
occurs when teachers use inferences about student progress to inform their teaching.



Assessment AS learning
occurs when students reflect on and monitor their progress to inform their future learning goals.

Assessment OF learning
occurs when teachers use evidence of student learning to make judgements on student achievement against goals and standards.

Student Learning Assessment: Comparative Perspective

Cross-National Approaches to International Assessments

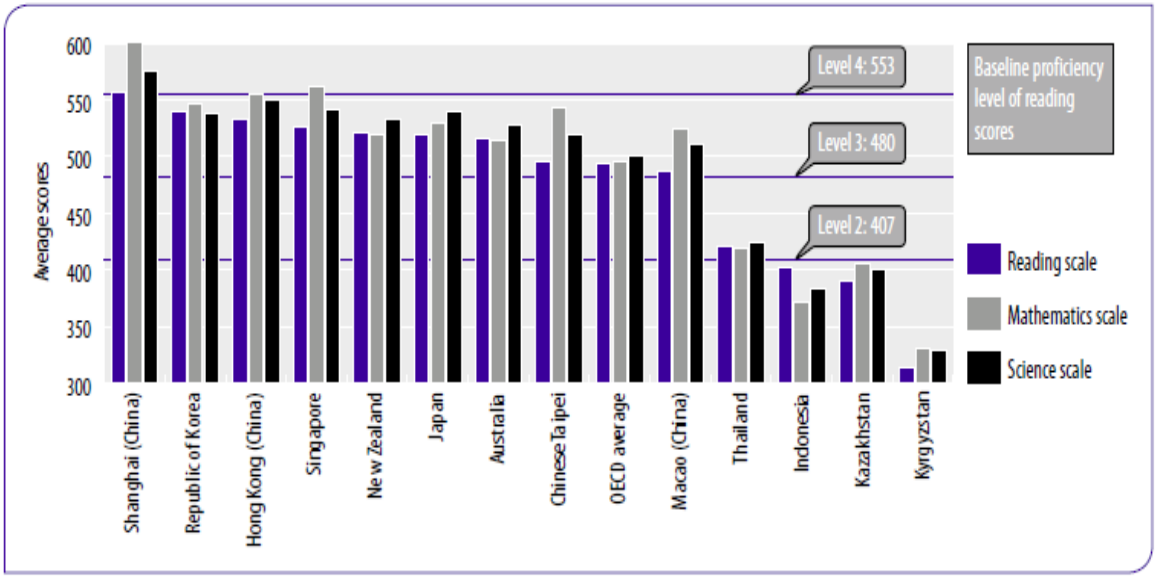
Country	PISA				TIMSS			PIRLS		
	2003	2006	2009/10	2012	2003	2007	2011	2001	2006	2011
Australia	✓	✓	✓	✓	✓	✓	✓			✓
Brunei Darussalam										
Cambodia										
Shanghai(China)			✓	✓						
Hong Kong(China)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
India			✓							
Indonesia	✓	✓	✓	✓	✓	✓	✓		✓	✓
Japan	✓	✓	✓	✓	✓	✓	✓			
Lao PDR										
Malaysia			✓	✓	✓	✓	✓			
Myanmar										
New Zealand	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Philippines					✓					
Republic of Korea	✓	✓	✓	✓	✓	✓	✓			
Singapore			✓	✓	✓	✓	✓	✓	✓	✓
Thailand	✓	✓	✓	✓		✓	✓			
Viet Nam				✓						
Total *	**7**	**7**	**10**	**10**	**8**	**9**	**9**	**3**	**4**	**4**

* Total number of countries

Notes: "Ranking" in such assessments has significant influence on national policy formulation, sometimes igniting hot policy debates that lead to whole-sector reforms (i.e. Japan, Kyrgyzstan). This is according to a survey conducted by UNESCO Bangkok in 2011 for which 17 out of the 48 MS in the region responded.
Most countries which responded to the survey indicated that they release their national results on these assessments online as well as via national reports, summaries/brochures or presentations to key stakeholders. However, dissemination via press releases and giving feedback to participating schools is more uncommon, which leads us to wonder why.

How do Asia-Pacific countries fare?

PISA scores: comparing learning outcomes – between countries (Average scores for reading, math & science in the AP region, PISA 2009



Narrow testing: reduces the vision of learning outcomes and the purpose of education…

What about development of the whole person:

- **Values?**
- **Attitudes?**
- **Emotional development?**
- **Transversal skills?**

Taken from: UNESCO. 2012. *Asia-Pacific End of Decade Notes on Education for All: Quality Education*

Recent developments in international assessment: PISA for Development

WHAT?

Enhanced PISA survey instruments that are more relevant to developing countries (while using scores on the same scales as the main PISA assessment).

HOW?

By offering developing countries more tailored and relevant policy analysis and insights

WHEN?

The project's objectives will be achieved over a 36 month period.

WHO?

A three-way partnership involving the OECD, concerned development partners (including UNESCO) and 5 project countries from the developing world (Cambodia, Mongolia, Punjab (Pakistan) and Sri Lanka?)

Five Main Outputs

a. Contextual questionnaires and data-collection instruments enhanced

b. The descriptive power of cognitive assessments enhanced

c. An approach developed, including a methodology and analytical framework, for including out-of-school 15 year-olds

d. Country capacity strengthened in terms of assessment, analysis and use of results for monitoring and improvement

e. Peer-to-peer learning opportunities identified related to participation in PISA

Recent developments in international assessment: Learning Metrics Task Force

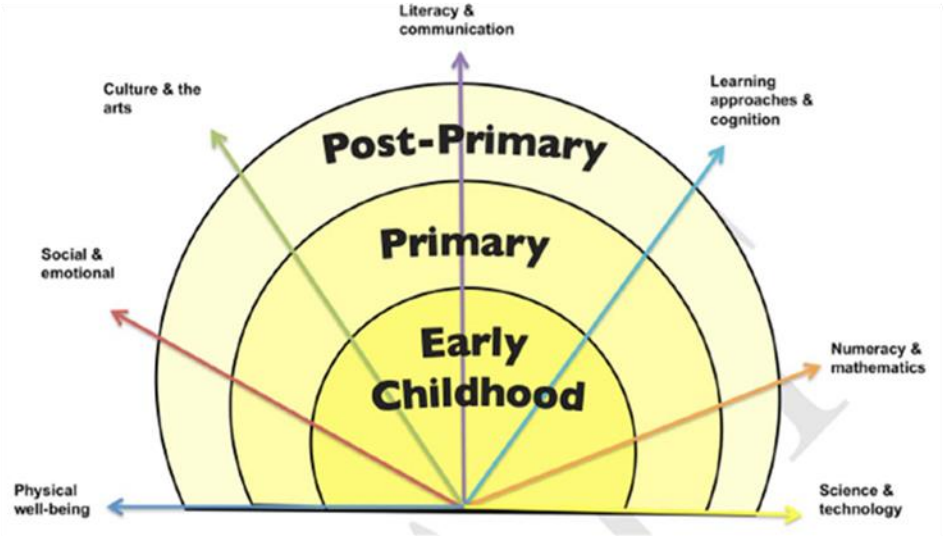
What does the task force aim to accomplish?

a. Identify a set of global learning goals

b. Provide concrete recommendations for measuring these learning goals

c. Provide guidance on how measurement can improve learning opportunities and outcomes for children and youth

Its first report ***Toward Universal Learning: What Every Child Should Learn***, presents a framework for what every child and youth should learn and be able to do by the time they reach postprimary age.



Comparative Approaches to National Assessments (Public Examinations)

Country	Completion of Primary/Entry to Lower Sec	Completion of Lower Sec / Entry to Upper Sec	Completion of Upper Sec / Entry to Higher Ed
Australia			✓
Brunei Darussalam	✓		✓
Cambodia	✓	✓	✓
Mainland China		✓*	✓
Hong Kong(China)			✓
India	✓	✓	✓
Indonesia	✓	✓	✓
Japan	Some	✓	✓
Lao PDR	✓	✓	✓
Malaysia	✓	✓	✓
Myanmar	✓	✓	✓
New Zealand			✓
Philippines			✓
Republic of Korea		✓	✓
Singapore	✓		✓
Thailand	✓	✓	✓
Viet Nam		Some	✓

Side effects from public examinations

a. Pressure from increased workload/ preparation

b. Extra paid private tutoring outside the classroom

c. “Teaching to the test” which leads to narrowing of the curriculum or learning area

d. Focusing on performance of certain groups of students to lift overall performance of the class/ school.

Comparative Approaches to National Assessments

	Assessment	Target students	Subject domains
Australia		All students in Years 3, 5, 7 and 9 (sampled students for NAP Sample Assessments)	Reading, writing, language conventions and numeracy for national assessment. Science literacy, civics and citizenship and ICT literacy in three-year sample assessments
Japan	National Assessment of Academic Ability	Formerly sampled students in Grades 6 and 9. Now all students.	Japanese & arithmetic in Grade 6; Japanese & Mathematics in Grade 9 (science in 2012, but not 2013)
Republic of Korea	National Assessment of Educational Achievement (NAEA)	All students in Grades 6,9,11	Korean, social studies, mathematics, sciences, English for Grades 6 and 9; Korean, mathematics and English for Grade 11
Cambodia	Cambodia Education Sector Support Project (World Bank project)	Sampled students in Grades 3, 6 and 9 (one grade per year)	Khmer, mathematics

Notes: Definitions/conceptual issues

In some education systems, there is a clear distinction between public examinations and national assessments which are designed to assess the quality of the education system and/or for accountability purposes *(assessment for learning*). However, in some countries, results of public examinations are utilized not only for selection or certification purposes, but also to evaluate the school system as is the case of Thailand.

In fact, KICE which administers the NAEA in South Korea calls "an accountability test that requires schools' responsibility for students' academic proficiency and monitors the quality of education to ensure and improve schools' and students' performances". Results are used to identify the current education status, to investigate the problems of curriculum and to make education policies and funding decisions for reforming schools.

Target/sample:

The more developed countries seem to assess all students (in Japan, for example, it has flip-flopped from all students to a sample and will be once more all in the 2013 assessments). Resource constraints may hinder emerging countries from assessing all students and thus a sample survey may be used. However generally it is recommended not to exclude more than 5% of the target population (Postlethwaite & Kellaghan, 2008)

Content of national assessments

The trend in NAs is to mainly assess languages and mathematics. In most cases (e.g. RoK NAEA), the assessment is closely tied to the national curriculum. However, given the importance and correlation of education to the

achievement of development goals (e.g. economic growth), subjects such as the natural sciences are crucial to support innovation and competency in knowledge and skills required in a competitive global market. Australia through its three-year sample assessments tries to assess "other" skills such as civics, ICT literacy, etc.
In Japan, in addition to "academic knowledge" relative to curriculum, the assessment also tests abilities to "apply" knowledge and skills to situations in daily lives and various problem-solving situations.
In Thailand, there is controversy about whether O-NET tests only academic knowledge or also higher-order skills (e.g. the ability to reason, analyze and synthesize information).
Recent national (and international) assessments have drawn on research relating to the development in students of literary and numeracy skills that may or may not be represented in national curricula.

Examples of Assessment Reforms: School-Based Assessment

School-based assessment

a. School-based assessment (SBA) refers to assessments administered in schools and generally marked by the students' own teachers

b. Rationale:

- Increasing validity of assessment (e.g. capturing outcomes that may not be able to be captured via a one-off public examination)
- Reducing dependence on examinations
- Capturing a broader range of outcomes including non-cognitive ones
- Obtaining a picture of student performance over time
- Motivating/empowering students and teachers
- Can be either *formative* or *summative*

SBA: Long traditions and new reforms

a. In some countries, SBA has been the norm for a long time, including: Australia (Queensland, ACT), England, Finland, New Zealand, Scotland and Sweden.

b. In some countries/jurisdictions of the AP region, there is a new and increasing trend towards SBA reform, including in: Hong Kong SAR (China), Malaysia and Singapore.

c. Some debates about the cultural appropriateness in the Asian context, where there is a strong culture of examinations and high-stakes assessment.

Challenges and policy considerations

Emerging Trends in Learning Assessment

Increasing:

- Participation in international comparative assessments
- Efforts to assess reading levels
- Use of national assessments for accountability or diagnosis.
- School-based assessment (SBA) reforms
- Multi-level approach to student learning assessment

Decreasing:

- Use of high-stakes exams

Challenges

a. The balance between accountability and a greater emphasis on 21st century skills

b. Inadequate assessment of 21st century skills

c. Misalignment between curriculum, teaching and assessment

d. Limited capacity (test design, administration, data collection, data analysis, etc.) in some countries for rigorous assessment

e. Challenges of validity and reliability (and other issues of psychometric quality) in assessments

f. Lack of stakeholder understanding of assessment reforms

Policy considerations

World Bank/SABER Framework for Building a More Effective Student Assessment System

	Assessment types/purposes		
	Classroom assessment	**Examinations**	**Large-scale, system-level assessment**
Enabling context	Policies Leadership and public engagement Funding Institutional arrangements Human resources		
System alignment	Learning/quality goals Curriculum Pre- and in-service teacher training opportunities		
Assessment quality	Ensuring quality (design, administration, analysis) Ensuring effective uses		

Source: World Bank.

a. Ensuring a stable enabling context

b. Investments in proper institutional arrangements and capacity building (assessment design, sampling, administration, data collection and analysis, etc.)

c. Examining alignment with curriculum and teaching

d. Development of and integration of assessment *of*, *as* and *for* learning via a multi-level approach

e. Emphasis of quality rather than quantity in regard to standardized examinations

f. Holistic vision of learning outcomes, incl. learning of transversal or 21st century skills and values (e.g. creativity, entrepreneurship, global citizenship, etc.)

g. Focus on networking and sharing of experience with other countries

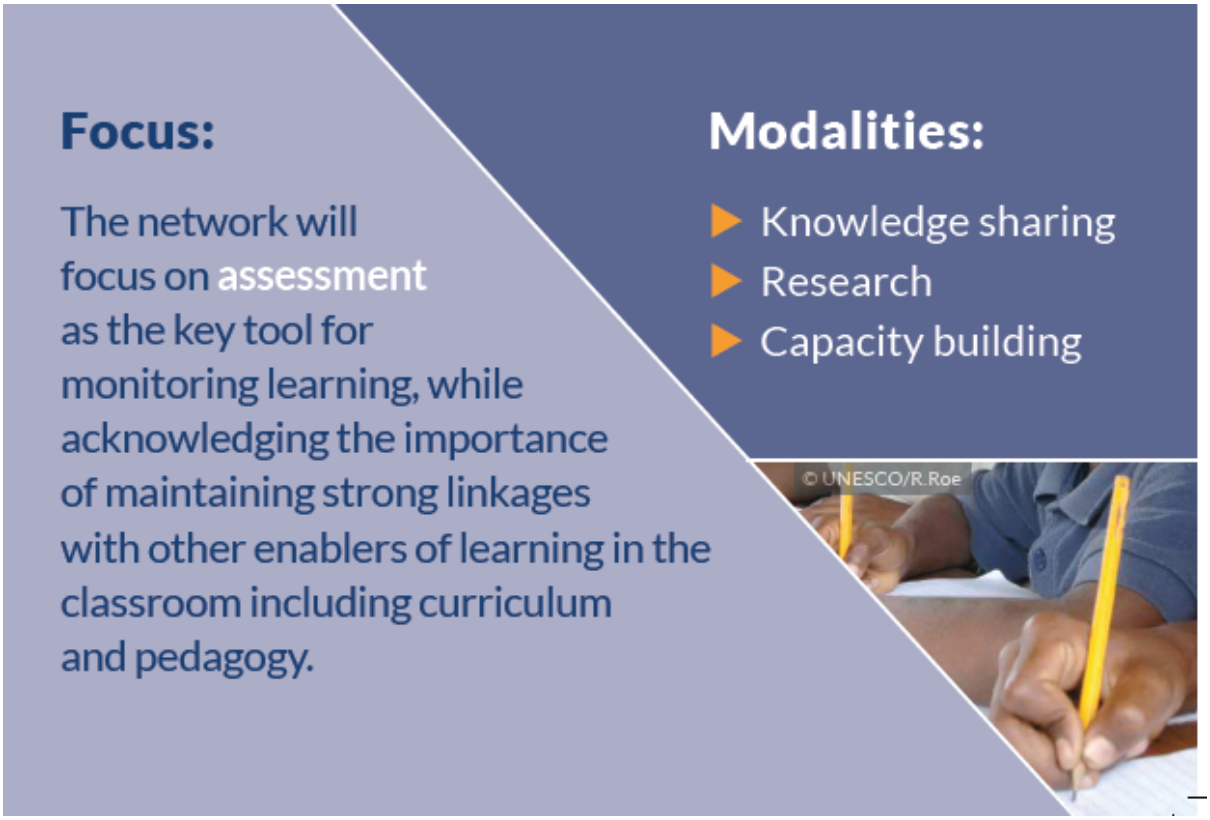
UNESCO Bangkok's Work

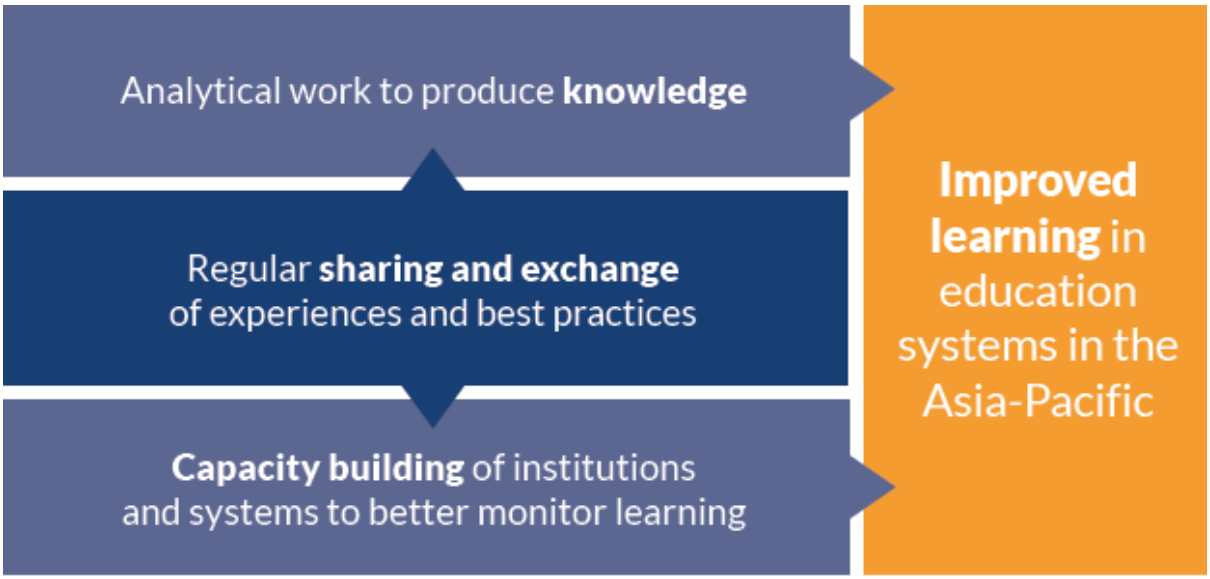
NEQMAP

NEQMAP aims to improve the quality of learning in the Asia-Pacific by enhancing the use of student learning assessment to strengthen education systems.

(www.unescobkk.org/education/neqmap)

It was formally established on 28 March 2013. There are currently fifteen institution members, including NIETS, and one individual member from a range of countries/jurisdictions.





Analytical work and technical support

a. Analytical work on assessment issues in the region (including survey report on the use of assessments)

b. Technical support/advice to Member States upon request e.g. Malaysia,

Myanmar and Thailand

Assessment and 21st century skills

a. Multi-country research on learning to live together (skills such as teamwork, communication, civic participation, intercultural understanding, etc.) through education

b. Reflections around the future of education and the place of education in the post-2015 development agenda

- Two Regional High-level Experts Meetings on education and learning, emphasizing
  - quality learning outcomes, not only in terms of knowledge, but also 21st century skills and appropriate specialized skills
  - Focus on equity by addressing disadvantage and marginalization.
  - Lifelong learning, key guiding principle for education.
- Third High-Level Expert Meeting focusing on pedagogical approaches towards holistic development of learners (Oct 2013)

Notes: Some of UNESCO Bangkok's work focused more on "21st Century Skills" and associated concepts.

c. Education Research Institutes Network (ERI-Net): 2013 collaborative research on promoting transversal/21st century skills in education policy and practice in Asia and the Pacific (10 countries)

d. UNESCO-RCP collaborative research: 2013 research on promoting transversal/transferable skills through TVET and vocational teacher education in Asia (15 countries)

e. Policy mapping and research on arts and physical education: Research on how these subjects contribute to acquisition of both cognitive and non-cognitive outcomes

Keynote Speech II

Testing and Assessment at the State and Federal Level in the United States

by Professor Mark L. Davison, PhD
Pearson/American Guidance Service, Inc. and John P. Yackel
Professor of Educational Measurement and Assessment
University of Minnesota

at 11:00 AM

on 4 September 2013

at Convention Centre A2, Centara Grand at Central World

****

NB: Converted from PowerPoint presentation slides

U.S. Context

a. Decentralized Education System
   - Local
   - State
   - Federal

b. Diverse Society
   - Goal: to prepare students from all segments of society irrespective of ethnicity
   - Students with disabilities

c. Historical emphasis on Reading

d. Emphasis on Promoting a Desire for Lifelong Learning

e. Enrollment driven funding

Prior to 1994

a. Assessment: A local district activity
   - Little state or federal assessment policy
   - National Assessment of Educational Progress (NAEP)
   - Monitors achievement levels, trends over time, and gaps
   - Reading, math, science, and writing
   - Grades 4, 8, and 12
   - Tests a sample of students, not all students

- National Assessment Governing Board (NAGB): state officials, local education officials, educators, and representatives from business and general public
- NAEP State Coordinators

Growing Concern about Low Achievement

a. Data fueling concern
- International comparisons
- Declines in achievement over time
- Achievement gaps between among ethnic groups

b. Federal government stepped in to improve achievement levels and close gaps

Improving America's Schools Act (IAS) 1994

a. Statewide standards
- Core curriculum for each state

b. Statewide tests to monitor achievement progress
- Grades 3, 5, 8, and high school
- Reading and math
- Accessible to students with disabilities and students for whom English is not the primary language

New Test Features

a. Remove time limits

b. Add constructed response items (essay questions)
- Measure competency, not just knowledge and skills

c. Modified Tests
- Same content, modified administration
- For example, braille form
- For example, bilingual translated tests

d. Is achievement increasing? Are gaps getting smaller?

No Child Left Behind Act (NCLB) 2001

a. Increase Grades of Testing
- Every grade 3 – 8, high school
- Math, Reading (Science)

b. Identify Failing Schools

- Specified % of students must pass test
- Failing to make Adequate Yearly Progress

c. Sanctions if fail to make AYP for 2 years

- Student right to change schools
- Reorganization of schools

NCLB Results

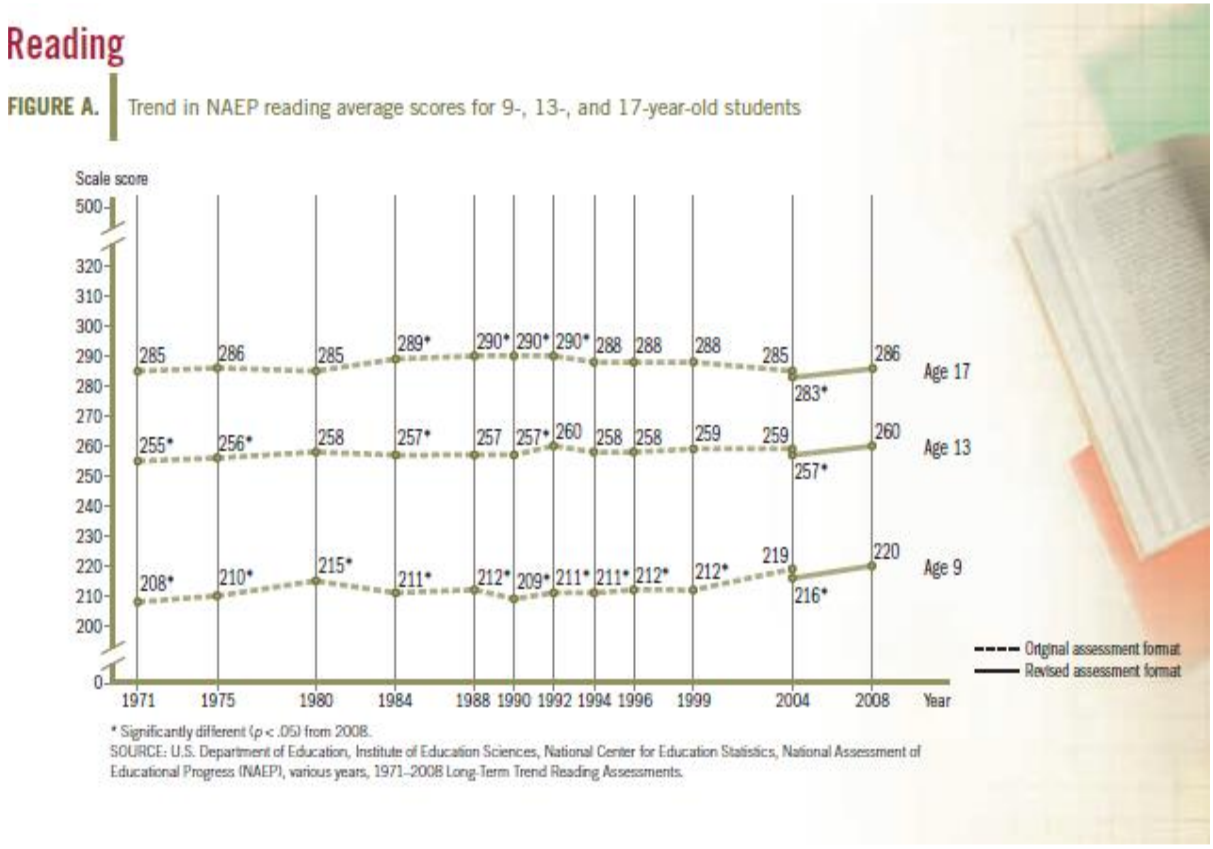
a. Unrealistic AYP achievement targets

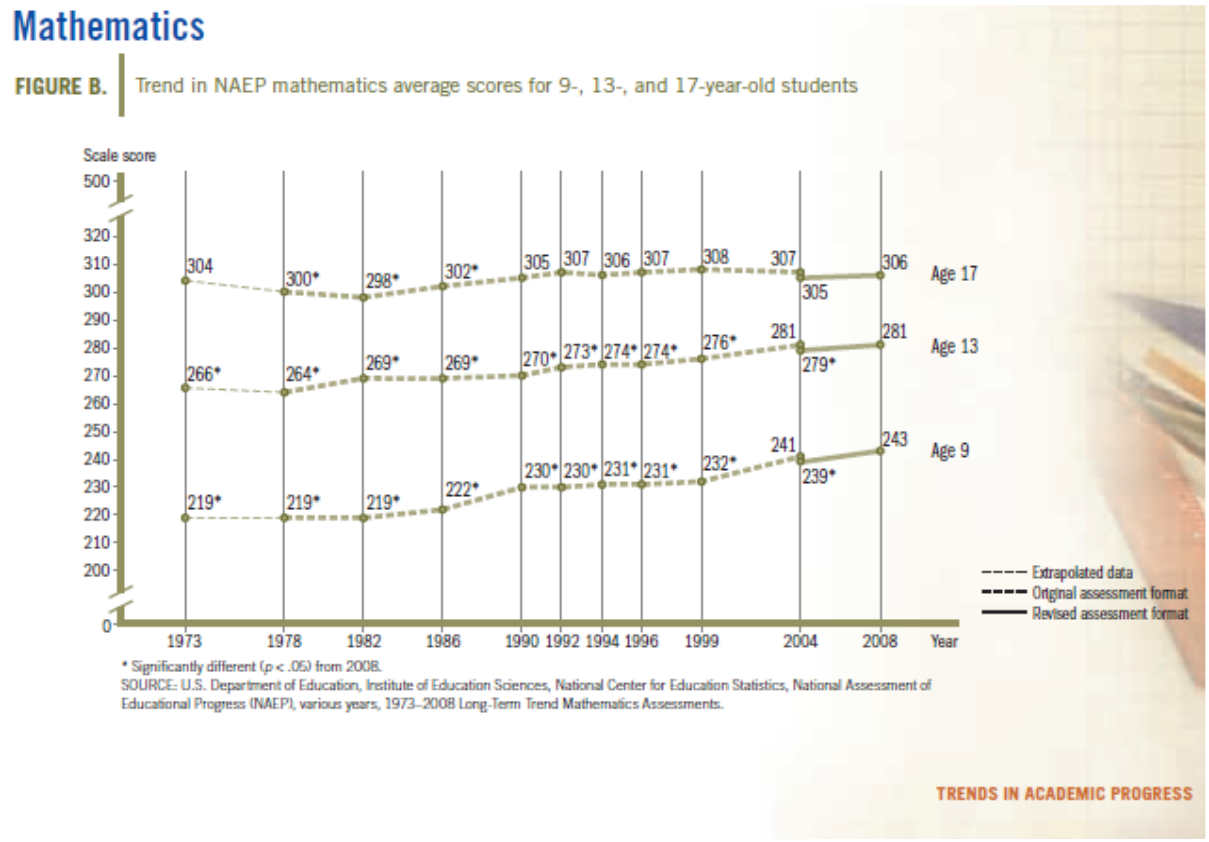
- Eventually, almost all schools failed

b. Achievement Gains under NCLB

- Significant gains in reading at all ages
- Significant gains in math at ages 7, 13 but not 18.

c. Do the achievement increases justify the effort and expense?





Race to the Top

a. National Core Standards

b. Two State Consortia Tests

- Smarter Balanced
- PARCC (Partnership for Assessment of Readiness for College and Careers (PARCC))

c. Computer Administration

d. New items

- http://sampleitems.smarterbalanced.org/itempreview/sbac/index.htm
- http://www.ccsstoolbox.com/parcc/PARCCPrototype_main.html

Use of Tests?

a. Identify low performing schools

b. One component of teacher evaluation system

Other Initiatives

a. Longitudinal Growth Scores

b. Creation of Longitudinal Databases

- Track students from early childhood through college
    - Test scores
    - Courses taken
    - Teachers
    - Grades

Networks for Testing Professionals

a. Networks for testing professionals across local districts and states

b. Communicate through newsletters, conferences, listservs

c. National Association of Test Directors

- http://nationalassociationoftestdirectors.org

d. National Conference on Student Assessment

- http://www.ccsso.org/ncsa

A National Test?

a. Separate state tests will be replaced by two tests

b. Replace two separate state tests with a national test?

c. Facilitate comparison of achievement across states

d. Report student results using national norms

Competency-based Test Items

a. Items designed to measure more than knowledge and skills

b. PARCC and Smarter Balanced items above

c. Designed to improve assessment of complex knowledge and skills and the application of knowledge and skills

d. Requires improved test items

Trends

a. Growing federal role in assessment and education policy

- But not funding

b. National tests

c. National curriculum

d. Emphasis on math and science

e. Measurement of growth over time, not just achievement at a single time point

f. Continued emphasis on improving achievement, closing gaps, identifying failing schools, evaluating teachers

Excellence Should Be Our Guide

a. Identify high performing schools, not just failing schools

b. Encourage excellence, not just avoiding failure

IV. Country Reports
on
National Educational Testing and Assessment

Brunei

Name of Organization

Department of Examinations, Ministry of Education

The Department of Examinations is one of the departments in the Ministry of Education in Negara Brunei Darussalam. This Department is assigned with the following duties and responsibilities:

1. Handles all types of assessment accountable to the Department under the 21st Century National Education System (SPN 21).
2. Handles all types of examinations (Local or External) accountable to the department.
3. Implement the policy of the Brunei Board of Examinations.
4. Provide statistical analysis and records of the students' achievements in the examinations; provide feedback to schools and offer services, guidelines and advice on examination matters.
5. Carry out the policy of the Board of Examinations.
6. Prepare, print, distribute and ensure the safety and security of the examinations papers that are managed by the department.
7. Function to review and assess from time to the quality and efficiency of examination, efficiency and perfection of equipment/instrument, techniques and printing of examination papers.
8. Function to investigate, evaluate and review from time to time the quality of assessment, efficiency and perfection of instrument and techniques in the 21st Century National Education System (SPN 21).
9. Issue result slips and examination certificates

Vision

The vision of the department is to become the Centre of Excellence for Assessment and Qualification.

Mission

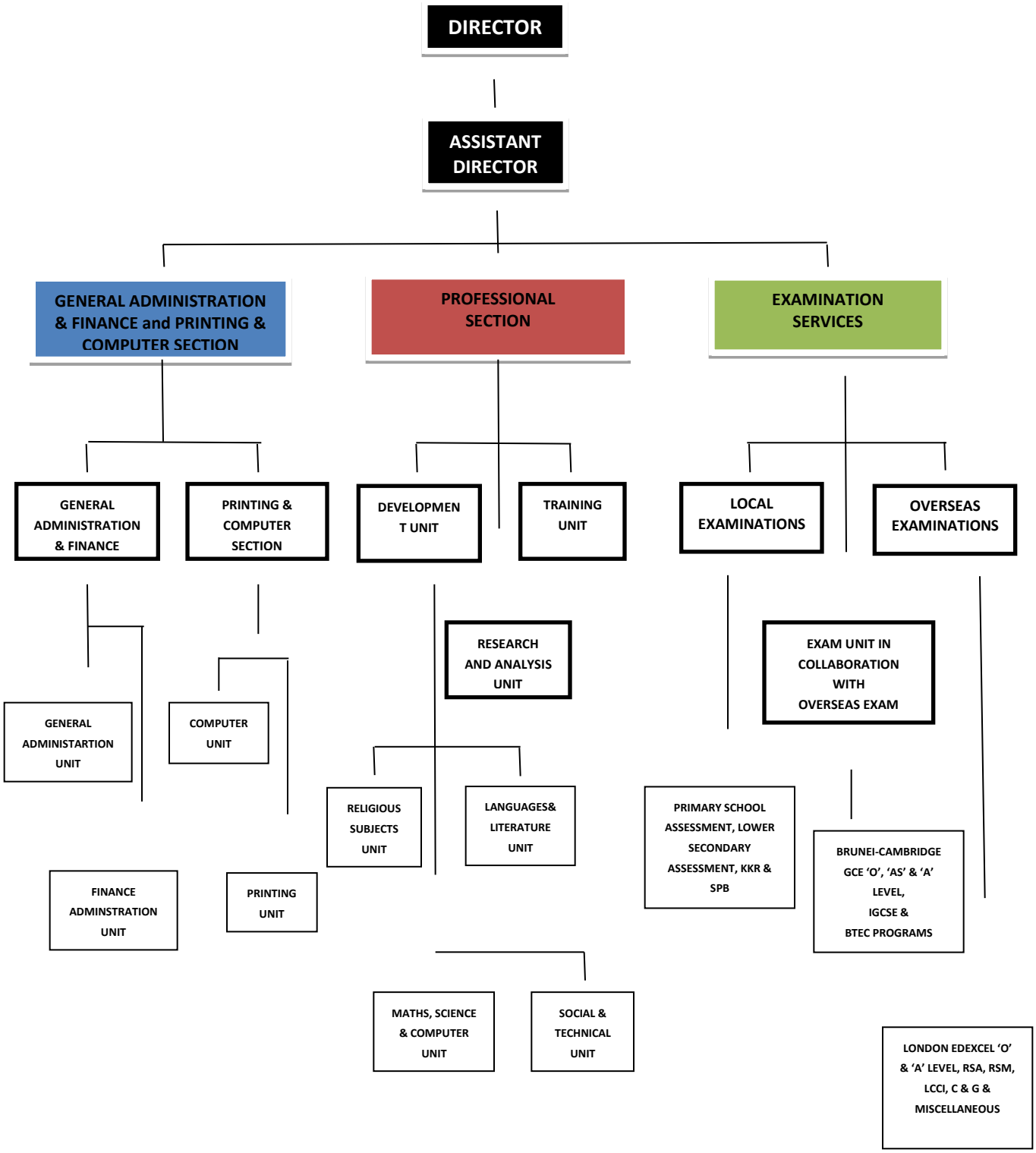
The mission of the department is to provide a fair, high quality and consistent assessment and qualification for students, through practice and professional commitment in achieving the departmental objectives that will produce leadership for future generation.

Organization Structure

The department is led by a Director and assisted by an Assistant Director. In ensuring the smooth running of administration, the department has 3 important sections.

1. General Administration &Finance, Printing and Computer Section.
2. Administration and Management of Examination Section.
3. Professional section which consists of Development, Training and Research & Analysis units.

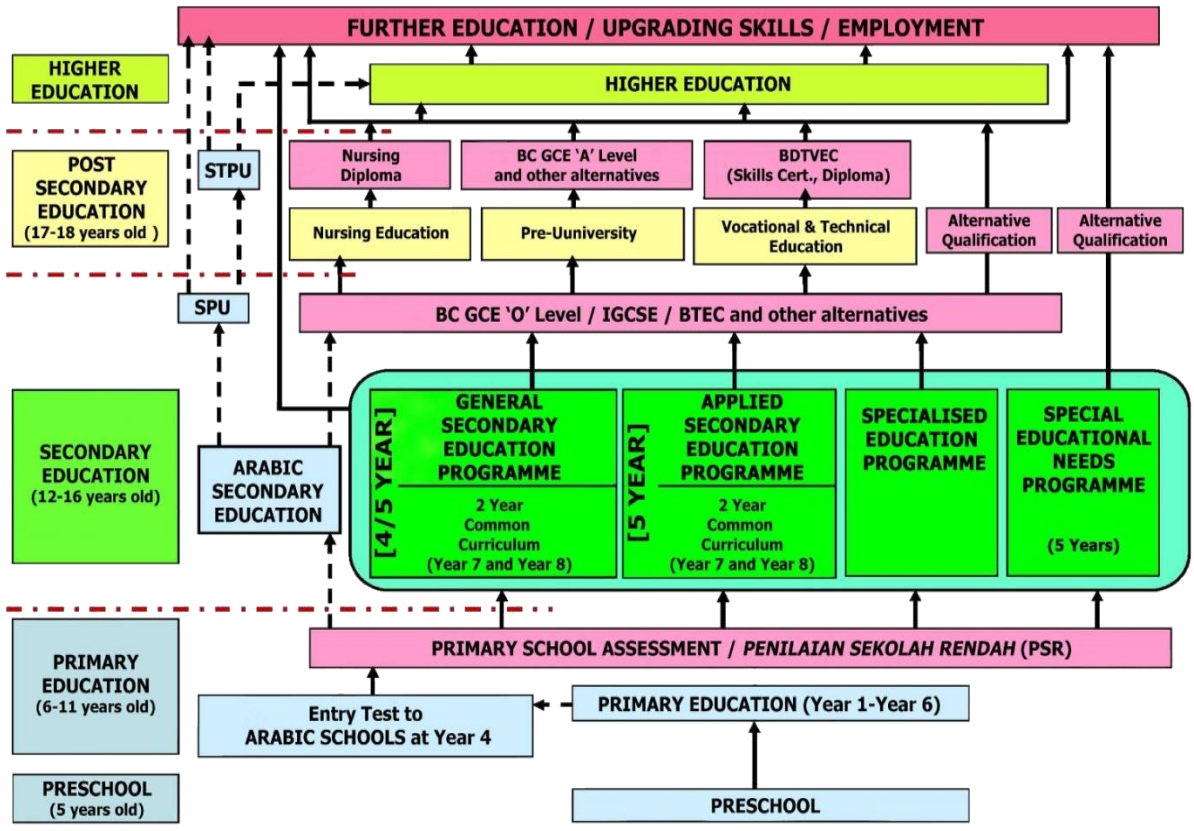
Officers and staff in each of these sections are assigned with relevant duties and responsibilities. The full structure of organization of the department can be found as follow.


DIRECTOR
ASSISTANT DIRECTOR
GENERAL ADMINISTRATION & FINANCE and PRINTING & COMPUTER SECTION
PROFESSIONAL SECTION
EXAMINATION SERVICES
GENERAL ADMINISTRATION & FINANCE
PRINTING & COMPUTER SECTION
DEVELOPMENT UNIT
TRAINING UNIT
LOCAL EXAMINATIONS
OVERSEAS EXAMINATIONS
GENERAL ADMINISTARTION UNIT
COMPUTER UNIT
RESEARCH AND ANALYSIS UNIT
EXAM UNIT IN COLLABORATION WITH OVERSEAS EXAM
FINANCE ADMINSTRATION UNIT
PRINTING UNIT
RELIGIOUS SUBJECTS UNIT
LANGUAGES& LITERATURE UNIT
PRIMARY SCHOOL ASSESSMENT, LOWER SECONDARY ASSESSMENT, KKR & SPB
BRUNEI-CAMBRIDGE GCE 'O', 'AS' & 'A' LEVEL, IGCSE & BTEC PROGRAMS
MATHS, SCIENCE & COMPUTER UNIT
SOCIAL & TECHNICAL UNIT
LONDON EDEXCEL 'O' & 'A' LEVEL, RSA, RSM, LCCI, C & G & MISCELLANEOUS

Testing Procedure

Students in Negara Brunei Darussalam are required to sit the National Examinations at certain levels in their schooling. The National Examinations are given in order to support standards of attainment of students, to provide accountability measure, to certify candidates' academic achievements and to promote students to the next level and to channel them to appropriate stream according to their ability and interests.

The Figure below shows the National Education System for the 21st Century (SPN21). There are several programmes in the system with its own level of assessments.



Note: subject to changes from time to time.

There are 4 main National Examinations that students need to take throughout their schooling life. The four National Examinations are as follows:

- The Primary School Assessment Examination (PSR), conducted at the end of Year 6.
- The Student Progress Assessment (SPA), conducted at the end of Year 8.

- The BC GCE 'O' Level Examination, tested at the end of Year 10 or at the end of Year 11 schooling, or The BTEC Certificate programmes (SBA) and
- The BC GCE 'A' Level Examination, tested at the end of Upper Sixth or at the end of Year 12/13.

Apart from the above examinations, students are required to sit for School-based assessment at the end of every level. The assessment/examinations given to students in the country can be summarised in the table below.

LEVEL	AGE (years)	EXAMINATIONS
Pre-School (1 year)	5	School-Based Assessment (SBA)
Lower Primary (3 years - Year 1, 2, 3)	6 – 8	SBA
Upper Primary (3 years - Year 4, 5, 6)	9 – 11	- SBA (Year 4 & Year 5) - PRIMARY SCHOOL ASSESSMENT (PSR) (Year 6)
Lower Secondary (2 years - Year 7 & Year 8)	12 – 13	- SBA (Year 7 & 8) - STUDENT PROGRES ASSESSMENT (SPA) =SBA + SPE (Year 8)
Upper Secondary (2 or 3 years Program - Year 9, 10/11)	14 – 16	SBA (Year 9/10) SBA + BC GCE 'O' LEVEL (BRUNEI-CAMBRIDGE GCE 'O' LEVEL) / IGCSE (INTERNATIONAL GENERAL CERTIFICATE OF SECONDARY EDUCATION)(Year 10 or Year 11) BTEC Certificate Programmes– SBA
Sixth Form (2 years - L6, U6)	17 – 18	- SBA (Lower 6), May sit for 'AS' Level Examination - BC GCE 'A' LEVEL (BRUNEI-CAMBRIDGE GCE 'A' LEVEL) (Upper 6 or Second Year)

Primary School Assessment (PSR – Penilaian Sekolah Rendah) Examination

In this examination, the Primary school pupils are tested on 5 subjects: English Language, Bahasa Melayu, Mathematics, Science and Nationhood Education (Malay Islamic Monarchy -MIB). The questions papers are developed and moderated by appointed panels, and coordinated by the Examinations Department. The mode of assessment is mainly pen and paper. The questions consist of free response, structured, essay and multiple-choice questions; taking into account balanced and fair assessment, aligning with syllabuses. Markings are done by appointed teachers from primary schools and manage by the Examinations Department. Attainment of pupils are graded as pass grades (A, B, C & D) and fail (grade U) by Examinations Department in collaboration with appointed officials of the Ministry of Education and approved by the Brunei Board of Examination. Pupils must pass ALL 5 subjects; Bahasa Melayu, English Language, Mathematics, Science and Nationhood Education (Malay Islamic Monarchy - MIB). The results are used to promote and place pupils into Secondary schools and to place them into Science college/school if pupils obtain 5A's.

Student Progress Assessment (SPA)

Student Progress Assessment is assessment at the end of Year 8 students, whereby they are tested on 6 cores subjects: English Language, Bahasa Melayu, Science, Mathematics, Islamic Religious Knowledge, and Nationhood Education (MIB).

Learners are also required to study the all General subjects: Physical Education, Co-Curricular Activities, Social Studies, Business, Art and Technology and may also take one optional subjects in areas of other languages or Arts and Culture. The tests given are balanced and fair assessment, aligning with syllabuses. The markings of the candidates' scripts are done internally by teachers in schools.

Core Subjects: Assessment – Student Progress Assessment (SPA) at Year 8

SPA = School-based Assessment (SBA) + Students Progress Examinations (SPE)

General Subjects for Year 7 to Year 8: Assessment - School-based Assessment (SBA)

Optional Subjects: Assessment – School-based Assessment (SBA)

Brunei-Cambridge GCE 'O' Level Examination

This exam is normally tested at the end of Year 10 or Year 11 and is conducted in collaboration with the University of Cambridge International Examinations (UCIE). The subjects tested in this examination are mainly compulsory subjects: Bahasa Melayu, English Language, Mathematics, and Science subjects are for the Science stream students or one of the

Science subjects for the Art stream students (Physics, Chemistry, Biology, and Combined Science). The Optional subjects are Geography, History, Islamic Religious Knowledge (IRK), Computer Studies, Commercial Studies, Food & Nutrition, Chinese, Design & Technology, Art, French, Woodwork, Agriculture, Economics, Business Studies, Commerce, Principles of Accounts, Arabic, Hafaz Al-Quran, Ulum Al-Quran, and Tafsir Al-Quran. The test developments of local subjects papers are by panels and moderated, and agreed by Examinations Department and UCIE.

The modes of assessment for this examinations are pen and paper (free response, structured, essay, multiple-choice questions), oral test (reading and speaking – Bahasa Melayu, English Language, Bahasa Arab, French, Hafaz Al-Quran), practical tests (Physics, Biology, Chemistry, Food & Nutrition, and Agriculture) and coursework / project (Computer Studies, Design & Technology). Candidates' scripts for local papers are marked by external markers who are appointed teachers from secondary schools in the country and the markings are managed by the Examinations Department. Candidates' scripts for other than local subjects are sent to UCIE for marking. Attainment of candidates are graded as pass grades (*A1 - E8) and fail (grade U9) by the University of Cambridge International Examinations. The results obtained by candidates are used to promote them to be eligible to proceed to Lower Sixth or enable them to enter technical / higher institutions or to seek employment.

Brunei-Cambridge GCE 'AS' & 'A' Level Examination

This examination is tested at the end of Upper 6 Form and it is conducted in collaboration with the University of Cambridge International Examinations (UCIE).

The Lower 6 students are allowed to sit for 'AS' level at the end of their Lower 6 Form.

The subjects tested are Bahasa Melayu, English Language, Mathematics, Physics, Chemistry, Biology, Geography, History, Computing Science, Art, Economics, Business Studies, Accounting, Syariah, Usuluddin, Hafaz Al-Quran, Ulum Al-Quran and Tafsir Al-Quran. Similarly as the 'O' level, local subjects papers are developed by panels, agreed by the Examinations Department and UCIE.

Similar to the BC GCE 'O' Level Examination, the modes of assessment are mainly pen and paper (free response, structured, essay, multiple-choice questions), oral (recitation – Hafaz Al-Quran), practical tests (Physics, Biology, Chemistry) and coursework/project (Computing Science, Design and Technology, and Art) taking into account balanced and fair assessment, aligning with syllabuses. The marking of the candidates' scripts for local papers are done

externally by appointed teachers and managed by the Examinations Department. Candidates' scripts for other papers are sent to UCIE for marking. Attainment of candidates are graded ad pass grades (*A-E) and fail (grade U). For 'AS' Level, candidates' attainments are graded as pass grades (*a-e) and 'O' level denoted by 'O' by the University of Cambridge International Examinations. Results obtained by candidates are used for University entry or entry into higher institutions or for seeking employment.

Result

Candidates are considered pass if they achieve a certain minimum criteria set by the Ministry of Education, which qualify them to be promoted to the next level of schooling or help them to seek for employment in the country.

1. For the Primary School Assessment Examination (PSR), candidates must obtain grades A-D in ALL subjects, which are English Language, Bahasa Melayu, Mathematics, Science and Nationhood Education (MIB).
2. In the Student Progress Assessment (SPA), candidates qualify to be promoted to Year 9 that channelled them to different education programmes.
3. For the BC GCE 'O' Level, candidates must obtain as least credit in 4 subjects, and
4. For the BC GCE 'A' Level, candidates must get at least 1 subject with at least grade E.

School candidates' performance in the National Examinations in 2012 is shown in the table below.

NO.	EXAMINATION	NO. OF CANDIDATES		% PASS
		Taking	Pass	
1.	Primary School Assessment (PSR)	6924	5434	78.48
2.	Brunei Cambridge GCE 'O' Level	8614	3374	39.17
3.	Brunei Cambridge GCE 'A' Level	2395	2181	91.06

Problem, obstacle and solution

The schools need to be seriously engaged and geared up to handle School-based Assessment in a way that it should not be confused with the common ordinary classroom assessments especially when it contributed and incorporated into the final assessments for a certain qualification. The main issue is more with the credibility of the judgments made in school-based assessments by teachers especially when concern with consistency and biasness. Secondly, the use of the reporting on the students' achievements in their study achievement based on their assessment including SBA in planning for the continuous intervention or remedial programmes for the students improvements in achievement especially in the final performance. Looking into this Ministry of Education through various departments engaged on several trainings in the aspect of developing various assessment instruments or assessments tasks at primary and secondary levels.

The invigilation of the candidates during the examinations is normally done by appointed teachers from schools. The problem that is usually experienced by the Examinations Department is getting enough teachers to invigilate the candidates during these National examinations as the exams are taking place at the same time. However, the problem can be solved by appointing retired education officers or teachers.

Similarly, problems are encountered during the markings of candidates' scripts for the local papers as the external markers are chosen from experienced teachers in schools. To solve the problem, some new teachers are appointed and given the exposure. The Department of Examinations seeks the permission of the school principals concerned for these teachers to be exempted from school duties during the period of markings and they are also requested to work during weekends in order to meet the deadline.

Apart from these, we are still short of expertise that is capable of developing quality local assessment papers, particularly among teachers in schools. However, the Department of Examinations with the help of the Human Resource Development Unit, Ministry of Education, is given the authority to identify overseas consultants who can provide the training for teachers or officers in the ministry. So far, Department of Examinations is working closely with University of Cambridge International Examinations to provide the necessary training for our teachers and officers.

Other

The Ministry of Education (MoE) Brunei Darussalam is committed to providing an educational system that prepares the young generation for future roles as capable, creative, thinking and innovative citizens who would uphold the local social values inherent in the national philosophy embedded in the Nationhood Education concept. Towards this, MoE embarked on the implementation of the new National Education System for the 21st Century or well-known as SPN 21 also includes some changes in the assessment method of students' achievement. At the lower secondary level, the Student's Progress Assessment (SPA) consists of 2 components, School-Based Assessment (SBA) which is on-going from Year 7 and Students Progress Examinations (SPE) conducted at the end of Year 8.

The Primary School Assessment (PSR) will still be used at the end of Year 6; however, a certain weightage of School-Based Assessment (SBA) at Year 4, Year 5 and Year 6 will be incorporated into the written assessment marks at Primary School Assessment. The continuous assessments also used in identifying the strength and weakness of students so that proper planned intervention or remedial programs can be done for improvements. This also includes in the change in format of reporting for parents and schools administrators so that proper plans and actions can be considered for the benefits of the students.

Cambodia

Name of Organization

Education Quality Assurance Department (EQAD)

Bloc 201, Norodom Blvd, Boeung Keng Kang 1, Khan Chamkar Morn, Phnom Penh, Cambodia

Director: Mrs. Bek Chiwi

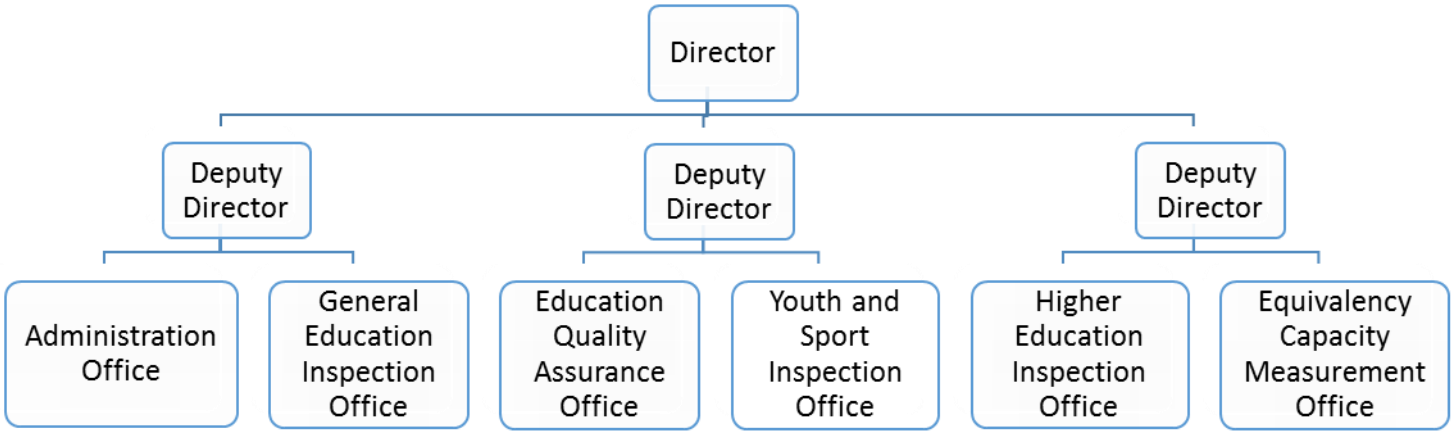
Vision

To assure that all educational institutions reach the quality standard of the national standards of education.

Mission

Manage and promote the monitoring, evaluation, inspection, standardized test, measuring the equivalency capacity and to solve any problem relates to education techniques.

Organization structure



Development of national testing and examination system

1. National testing (National Assessment)

National testing or National Assessment is operated by the Education Quality Assurance Department. The full set of national testing was established and implemented in 5 years (started in 2005 and ended in 2010) under the support from the Cambodia Education Sector Support Project which sponsored by the World Bank. The project conducted the national test only for one grade level per year: Grade 3 in 2006, Grade 6 in 2007, Grade 9 in 2008, Grade 3 and Grade 9 again in 2009 and 2010 respectively on two subjects, Khmer language and Mathematics. The main and most of activities of the test such as Sampling Design, Test Item Establishment, Data Analysis and Report Writing were led by international technical advisor (TA).

After the above project was finished, the national testing task has been moved to the Ministry of Education Youth and Sport (MoEYS), under the Education Quality Assurance Department. The national testing process was re-started in 2012 (two years after transferring from the project) and has been continued until the present days.

Since 2012, MoEYS/EQAD has started to conduct the national test by their own without supporting from partners or TA. Grades 3 was selected for the national test in 2012 and Grade 6 was selected for testing in 2013. The same as previous time, the subjects to be tested are Khmer and Mathematics. This is the first time that such kinds of activities have been fully managed by MoEYS/EQAD.

2. National Examinations

This task is under the responsibility of the General Secondary Education Department. There are two levels of national examinations in Cambodia, Grades 9 and 12. Grade 9 refers to the end of Lower Secondary Education cycle or the last stage of Basic Education and Grade 12 refers to the end of upper Secondary Education cycle.

Before 2002, the Grade 12 national examination preparations and processes were conducted in the manual manner, in other words, the main works of exams were conducted by hand such as the calculation of passed/failed scores of the students and the publishing of the exam results etc.

Following the request made by the Cambodian Government to the Australian Government for assistance in improving the reliability and validity of examinations in the education system, particularly Grade 12, the Cambodia-Australia National Examinations Project

(CANEP) was created in 1997. During its project life, CANEP provided infrastructure to support the efficient and secure handling and administration of the national examinations; improve the quality of the examination papers and marking processes of the grades 9 and 12 examinations and; facilitate the review and development of examinations and other educational policies on the basis of reliable data and research. Moreover, the project had a significant impact on the development of using grade 12 results for entry to higher education. These processes of national examinations have been continued and improved year by year until the present days.

On the other hand, the process of the Grade 9 national examinations has been slightly improved. All provinces are responsible for conducting the examination processes manually to produce the results for the MoEYS. No computerization is used for entering the student scores.

Test/Examination standards

1. Test Standard

National assessment function serves a diagnostic purpose of the education system. Sample schools, some important parts of curriculum and some subjects only are selected and tested in order to measure student learning in the country as a whole.

2. Examination Standards

All students in Grades 9 and 12 are allowed to attend and all subjects taught are used for the exams.

Testing procedure

1. Item writers (Who are item writers? How do you recruit and train them?)

There are two sources that the item writers are selected from: the Department of Curriculum Development (DCD) and schools. The experts from DCD are invited because these people have sufficient experience in developing the national curriculums, textbooks, curriculum standards and also items for different kinds of tests. Secondly, some other item writers are selected from schools. In general, in every school there are technical group leaders (best teachers) who are responsible for helping or training other teachers at the same subject taught in school. They are selected because, firstly, they have good knowledge on specific subjects they are responsible for and, secondly, they know better than the central level in terms of what level of difficulty of the items their students can capture.

The item writers were invited to attend two workshops, one is to discuss about what parts of curriculum (curriculum mapping or blueprint), what content and sub-content areas, what cognitive skill/level, what difficulty level and how many items should be selected/created for the test. Then, they come again for the second workshop to write the items accordingly to what they had defined in the previous workshop.

2. Item validation (How do you validate the items?)

In order to confirm that these newly items are correct and understandable to the readers, a small group of experts were asked to check those items and correct if necessary. This does not mean that the students in different areas in the country can understand the items easily therefore, the item piloting is also needed.

3. Piloting Test Items (How do you pilot the items?)

The amount of students roughly 1500 students in different areas in country were asked to do the test in order to find out how many of the items they can complete. Then the good items were kept and the bad items were reviewed or dropped out.

4. Security procedure (What is your security procedure?)

The items were kept in only one office and no one are allowed to see them prior the test conduction. Three different test booklets were produced in which most items are different from each other, except some Anchor items. To do like this is to avoid the students cheating when they see their neighbors' booklets are not the same.

5. Item analysis (What is your item analysis procedure?)

The test data is analyzed by using SPSS program.

Descriptive Statistics: The analysis includes basic descriptive statistics to summarize the information such as the total numbers of students to be tested, the average percentage correct (mean), frequencies for the answers given by students (in some cases) and standard deviations are also used when appropriate.

Comparison of Means: Since the sample is divided into four types of schools most tables include global averages together with results separated by each school type. This allows the reader to see how student learning, poverty, teacher characteristics, etc. vary by schooling context.

Bivariate correlation: In addition to the statistical comparisons of means this method is also used for observing the relations between two variables, for example, the test scores and the scores provided by their teachers at school.

Results

1. Results of the examination (What are results of the examination?)

The results of the national examination are usually high. In general the pass rates are between 70% to more than 90% every school year.

2. The use of the test scores (How the test scores are used)

Mark X that applies.

... To admit a student to a program

... To make an exit decision

... To place a student into an appropriate class or program

X ... To gather information regarding students' achievement

X ... To diagnose students' learning ability/progress

... Others (Please specify)

X... To find out what factors affect the students' achievement

X... To find out what parts or contents of the curriculum the students perform better or worse

X... To compare the ability of students from different situations/areas/genders

X... To see if the students' achievements reach the standards set.

Innovation/The use of Technology

WinDem program (produced by IIEP) is used for data entry, data checking and validation and SPSS is used for the purpose of analysis.

Problems, Obstacles, Solutions

MoEYS faces three main problems:

- Lack of Human resources in this field: There are a few persons only who work full time for this task
- Lack of capacity in this field: The Government has just shifted its attention from efficiency to quality of education, therefore, the national assessment has just been established and the capacity of staff on this field is also limited.
- Lack of financial resources: Even the national economy has been gradually increased but it is not enough if comparing with the real needs.

Issues and trends of national assessment in education

As mentioned in the Education Strategic Plan 2013-2018 the MoEYS emphasizes to fully support the national assessment activities, specifically, to continue conducting the student test not only on Khmer and Mathematics but to add Science subject to be tested in next year. Moreover, the MoEYS commits to participate in regional or international test when appropriate.

Hong Kong

Name of Organization

Hong Kong Examinations and Assessment Authority (HKEAA)

12th -14th Floors, Southern Centre, 130 Hennessy Road, Wan Chai, Hong Kong

Director

The HKEAA is governed by the Authority Council, under which a number of committees advise and assist in various areas. The Council is committed to improving its governance structure and steamlining operational and decision-making processes to ensure the organization is poised to tackle every emerging challenge.

Mr Chen Chung-nin Rock has been appointed as the new Council Chairman with effect from 1 September 2012.

The composition and appointment of the Council are specified under Schedule 2 of the HKEAA Ordinance. Members are either appointed by the Chief Executive of the Hong Kong Special Administrative Region, nominated by the Heads of Universities Committee or are ex-officio members. The Council is the highest governing body of the Authority for making decisions and approving major plans, budgets, policies and regulations. The Council also appoints the senior executive of the Secretariat.

The Secretariat is headed by Dr. Tong Chong-sze, the Secretary General of HKEAA.

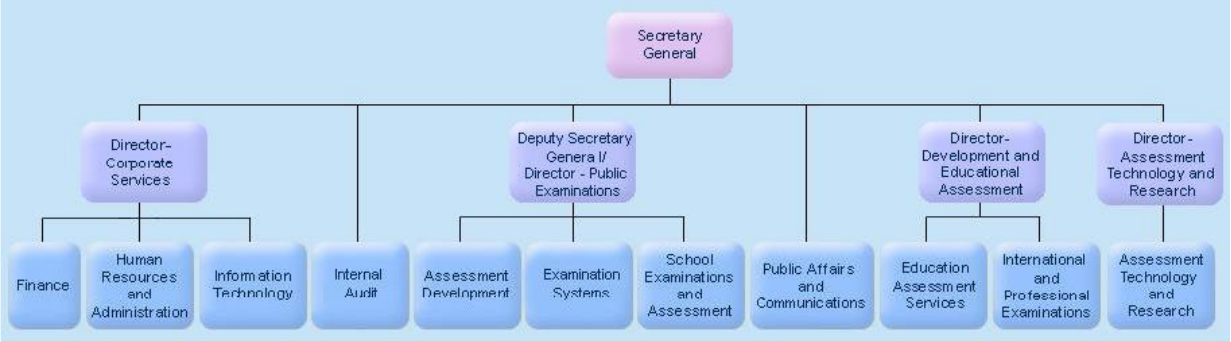
Vision

To be a world-renowned and well-trusted examination and assessment services provider.

Mission

To meet educational and societal needs, we shall provide valid, reliable and equitable examinations and a range of assessment services in a professional, innovative, efficient and effective manner.

Organization Structure



Development of National Testing and Examination System

Following the implementation of the New Academic Structure in 2009, Hong Kong now provides twelve years of free primary and secondary education, i.e. six-year primary plus three-year junior secondary and three-year senior secondary education. The Hong Kong Diploma of Secondary Education (HKDSE) Examination is taken at the end of Senior Secondary Education (Secondary 6 / Year 12). Most Secondary 6 students take four core subjects (Chinese Language, English Language, Mathematics and Liberal Studies) and two to three elective subjects.

HKDSE standards are overseen by the HKEAA. Apart from language-related subjects, all subjects can be taken either in English or Chinese--with common examination papers and marking systems across both languages. The language used in the examination is not recorded on the certificate.

Test / Examination Standards

There are five levels of performance of which 5 is the highest and 1 the lowest. The grading from levels 1-5 are standards-referenced. Within level 5, there are additional levels of 5** (the highest achieving 10% within level 5 candidates) and 5* (the next highest-achieving 30% (approx.) of level 5 candidates).

- 5**
- 5*
- 5
- 4
- 3

- 2
- 1

From 2012 onwards, this qualification carries UCAS Tariff points as follows:

Level	NSS subjects (except Mathematics)	Mathematics (Compulsory Part)	Mathematics (Extended Part)
5**	145	65	80
5*	130	60	70
5	120	45	60
4	80	35	50
3	40	25	40

Testing Procedure

a. Appointment of moderation committees

Where a subject has more than one paper, a separate moderation committee is appointed for each paper. Each moderation committee basically consists of five members: a chief examiner, two moderators, a setter, and the manager who is the secretary. They are normally professors or lecturers from tertiary institutions, teachers from secondary schools, and other people who are familiar with the subject. The setter is responsible for constructing and drafting the question paper. The role of moderators is to give advice on the suitability of the draft questions. The secretary of the moderation committee is normally the full time staff of an examination board. Apart from the normal secretarial duties of arranging moderation meetings, handling all secret and confidential documents, and revising the questions in light of discussions at moderation meetings, he / she also gives professional advice related to the subject examination. In nominating members of the moderation committee, efforts will be made to ensure a balance between setting expertise, academic knowledge and teaching experience.

b. Validation

The moderation committee should ensure that the question paper is of the right level of difficulty, that it adequately covers the syllabus, and that the questions are expressed in a straightforward fashion and are free of ambiguity. At the same time the marking scheme is

prepared with the aim of providing a fair and systematic basis for evaluating candidates' performance.

c. No piloting of test questions
d. Security procedures

The following measures are adopted:

- It is important that legal measures are set up to protect the security of information before the examination. There are security clauses in the relevant parts of the examination ordinance. In Hong Kong, it is specified in the examination ordinance that divulgence of confidential information is a criminal offence. Offenders once convicted can be subject to fines and imprisonment.
- Relevant examination personnel are required to sign undertakings not to divulge confidential information to any unauthorized person. Failure to preserve the confidentiality of information will be a contravention of the ordinance and upon conviction, a person who breaches confidentiality may be sentenced to a fine and imprisonment.
- A declaration system is in place to avoid any potential problems arising from the conflict of interest. For people handling question papers, they should sign a declaration stating that
  - They have no close relatives taking the examination.
  - They are not textbook writers or publishers.
  - They are not teaching the examination classes.
  - They are not involved with any tutorial schools.
- Careful auditing of working documents is required. Movement of documents used in preparing examination papers is carefully recorded. In addition, all printed question papers are kept with a record. An auditing system is in place.
- Monitoring by CCTV surveillance in office is used. CCTV is installed at different strategic locations at various office premises to monitor and record activities in the areas concerned to enable evidence from the recordings to be retrieved in the event of any irregularities.

Results

Results of the 2013 HKDSE Examination

- Percentages of levels attained for all subjects

	No. of subjects sat	5**	5*+	5+	4+	3+	2+	1+	U
Day School Candidates	413 990	1.1	4.5	11.2	33.2	59.6	83.1	95.0	5.0
All Candidates	453 185	1.1	4.4	10.8	32.7	59.1	82.8	94.9	5.1

- Statistics for eligibility to sub-degree programmes / relevant civil service appointment

Results	Day School Candidates		All Candidates	
5 subjects with level 2+ in Category A subjects / 'Attained' or above in Category B subjects, including Chinese Language and English Language	No.	%	No.	%
	47 141	68.9	49 798	68.6

- Statistics related to university admission

Results	Day School Candidates (Total: 69 557)		All Candidates (Total: 81 355)	
Core subjects at 3322 or better	No.	%	No.	%
	27 051	38.9	28 418	34.9

The use of technology

a. Public Examinations Communications & Support System (PECSS)

PECSS is a system involving the use of web cameras and an instant messaging programme connecting examination centres at schools with the Command Centre of the HKEAA via the Internet. With such provision, the smooth conduct of examinations can be facilitated through enhanced communication and support to examination centres to minimize possible impacts on candidates in case of irregularities or emergency situations. Moreover, the proceedings of examinations are also video recorded via this system, which can be used for future reference whenever necessary (e.g. in the investigation of irregularities). Therefore, the reliability of the delivery of the HKDSE Examination is enhanced by the provision of PECSS.

b. Oral recording system (ORS)

To foster the smooth conduct of oral examinations, an ORS has been developed to capture the performance of candidates and the conduct of the examination on video. The system aims to facilitate the handling of examination irregularities and complaints, e.g. centre noise or insufficient examination time, as well as enable re-assessment of student performances in the event of remarking and appeals. The system was piloted in the HKALE. Intensive training and briefing were conducted for about 140 technicians and 920 oral examiners. Feedback was positive and students were unaffected by the presence of recording equipment. The system was used for speaking examinations in the HKDSE with effect from 2012.

c. Onscreen marking of scripts

All examination scripts had to be scanned before marking could go ahead, in order to ensure both the complete retention of unmarked copies of all scripts, and the availability of scripts for onscreen marking (OSM). A total of around 1400 workstations were made available at seven geographically distributed assessment centres. This level of provision ensures that the planned schedule of marking was maintained, even allowing for the increased allocation of double marking and its associated discrepancy marking. The greater geographical spread of assessment centres made it easier for markers to spend time marking scripts.

Problems and issues

At the end, there are a few areas which we would like to review for our future development. There are three special areas.

- Ensuring that examinations do not just test factual recall and that they foster good study habits.
- Addressing the issue of learner diversity
- Enhancing assessment literacy for teachers

a. Designing questions to probe understanding

It is important for students to know the requirements of the question before making any attempts to answer the questions. Very often, a lot of students make the mistake of just regurgitating memorized materials without really addressing the requirements of the questions. For example, the following remarks are made by HKDSE Examination examiners:

> *It is imperative that candidates read the questions carefully if they want to produce relevant answers. Candidates too often jumped into answering a question without paying close attention to what it required. This explains why some candidates produced irrelevant answers when answering data-based questions: when the question required the use of both sources and own knowledge, they used either or the other and not both. For essay-type questions, candidates should similarly make sure that they grasp the gist of a question before producing the answer.* (2012 DSE History, p.25)

In composing a meaningful answer, students have to go through a problem solving process to identify the relevant concepts learnt and organize their ideas before deciding how to make use of them in their answers. In questions involving open-ended responses, students make reasoned judgments and explain why they make the relevant choices.

Students should be reminded of the importance of developing good study habits in preparing for examinations. Examination boards need to take steps to ensure that the question setting process is in line with this.

b. Addressing the learner diversity issue

Another issue is concerned with learner diversity. With the expansion of universal education, students of the whole age cohort are usually able to stay in school up to the age of 18. Examinations have to be designed to meet the needs of tertiary institutions for selection purposes. At the same time, there is the need to give certification to students who might not

choose an academic path. Examination boards are now facing the problem of designing examinations which will serve the dual purpose at the same time.

Some people might raise the question of whether all students should be included in the public assessment system. However, it is generally agreed that excluding them would disadvantage them in many ways. Changes which only affect slow learners continually run the risk of further disadvantaging them. If a certificate is only available for these students, it may become a new badge of failure. Only when all teachers and students are drawn into the process of change will the target population reap the benefit of any new initiatives.

Different regions have adopted different approaches. Individual examination boards have to design their own solutions. There is no simple answer to this issue.

c. Enhancing assessment literacy

It is also important for the general public to have a better understanding of the operations of public examinations. There are practical difficulties, not because examination boards are not prepared to do it, but mainly because we are not sure what the focus of the programs should be. Some people use the term assessment literacy to describe the content, but this is definitely not enough, because different writers have attached different meanings to it. For example, John Gardner suggests that assessment literacy would include knowledge of the types, methods and purposes of assessment, and an understanding of the reliability and validity of assessment results, the interpretation of responses, scores and grades, and so on, and their implications for learners. Another writer Popham proposes that assessment literacy consists of an individual's understandings of the fundamental assessment concepts and procedures deemed likely to influence educational decisions. It is necessary to fully understand the needs of the teaching profession before training programmes can be organized.

INDONESIA

Name of Organization

Center for Educational Assessment, Office of Research and Development,
Ministry of Education and Culture
Jl. Gunung Sahari Raya No. 4 Jakarta Pusat 10710 Indonesia
Phone: (+6221) 3847537, Fax: (+6221) 3849451, E-mail: puspendik@kemdikbud.go.id
Websit: http://litbang.kemdikbud.go.id/index.php/puspendik

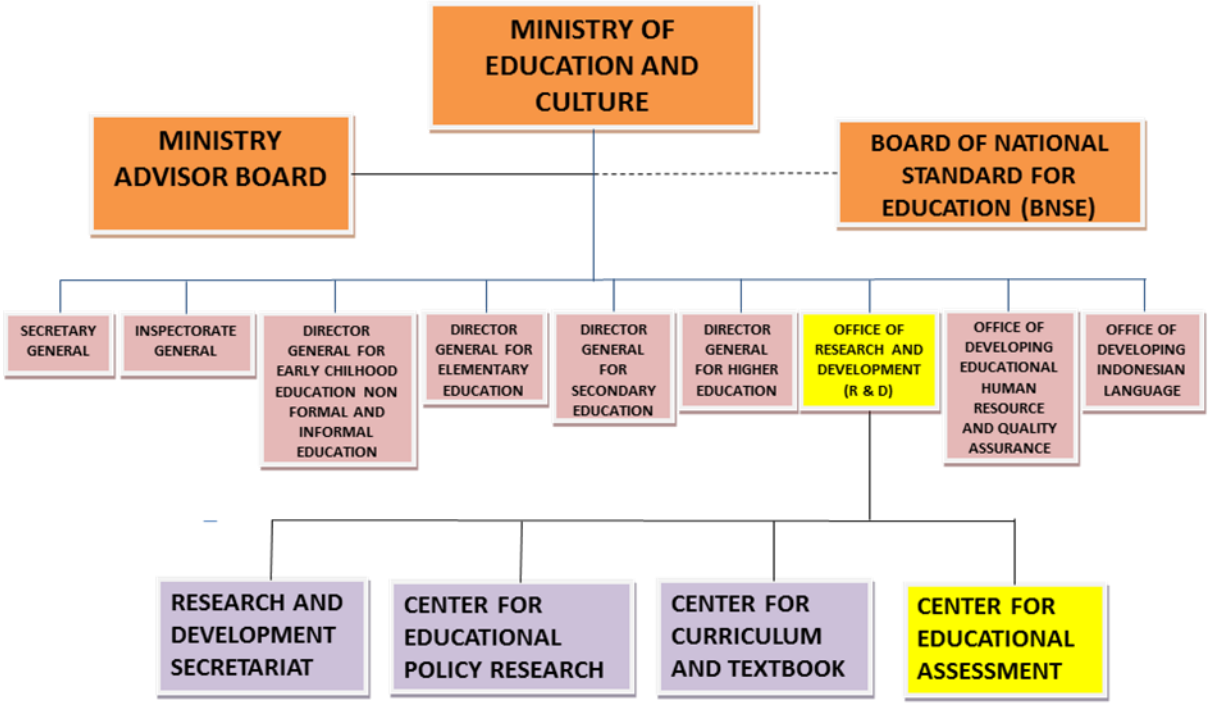
Director

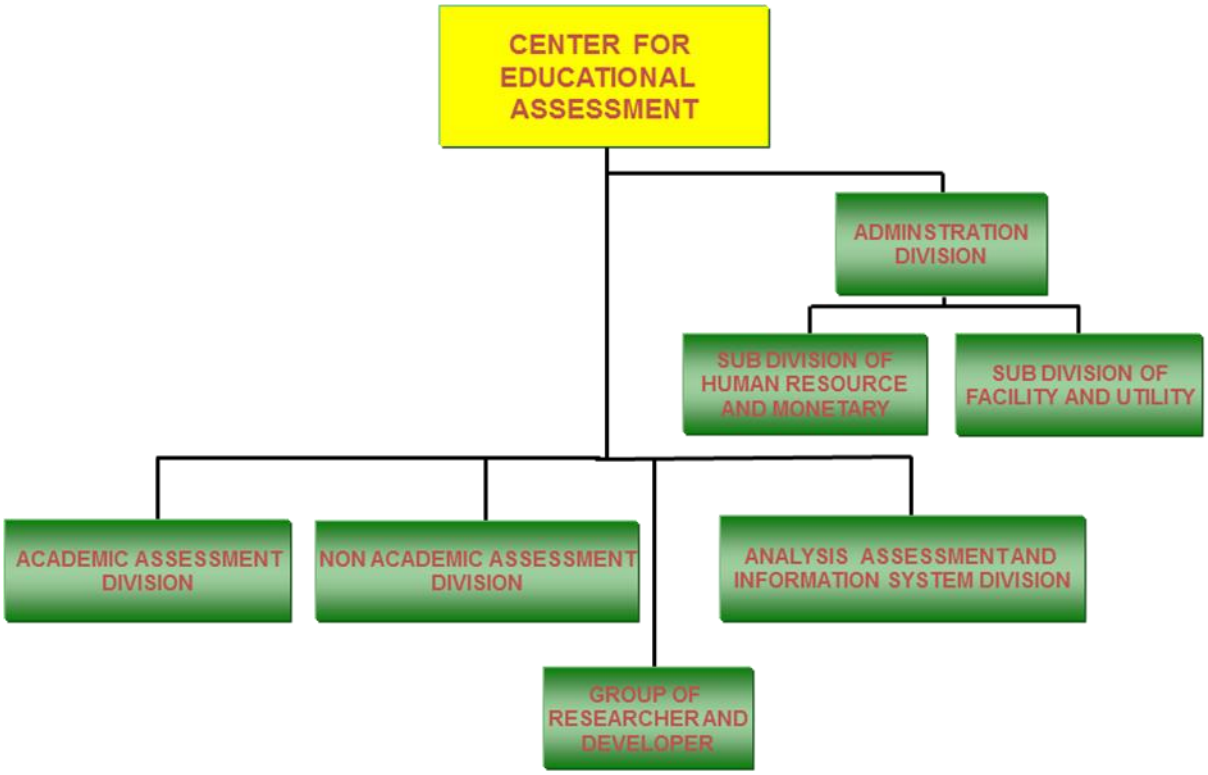
Hari Setidi, M.A. Ph.D

Vision and Mision

Center for Educational Assessment (in Indonesia is called as Pusat Penilaian Pendidikan or Puspendik for short) was established on September 11, 1980. The main task is to prepare technical policy, research, and depelovement of educational assessment systems and methodologies. Puspendik vision is to become a professional institution in educational assessment. To reach this vision, Puspendik has a mission to develop and execute educational assessment system for improving the quality of education and to develop the best assessment for execellent education.

Organization Structure





Development of National Testing and Examination System

Since 2005, the Indonesia Government established the Board of National Standard for Education (BNSE). BNSE is an independet and professional organization that has a mission to develop, monitor, and evaluate the implementation of national education standards. BNSE have the authority to depelop the national education standards; organizes national examination (UN); provide recommendations to the Government and local government in assurance and quality control of education; formulate criteria for graduation of students in elementary and secondary education units; and evaluate textbooks. Begining in 2014, BNSE only organizes UN forjunior high school, senior high school, vocational school, Package B, and Package C. UN for elementary school and Package A will be organized by Government.

In Indonesia, UN is an assessment of learning outcomes organized by the Government aimed to assess the achievement of national competency in acertainsubject in a group of subjects in science and technology. UN must be followed by students in formal education (Elementary School, Junior High School, Senior High School, and Vocational School) and students in non-formal education (Package A, Package B, and Package C). Package A equivalent to Elementary School, Package B equivalent to Junior High School, and Package C equivalent to Senior High School. All students in grades 6, 9, and 12 throughout Indonesia must take the tests at the end of academic school year on the same day and time every year.In the implementation of UN, BNSE cooperate with relevant agencies in the government (especially the Center for Educational Assessment at the Minitry of Education and Culture), the provincial government, district/city government, and education units.

In the implementation of UN, Center for Educational Assessment has a role in the preparation of test materials such as test spesifications, test items, test assembly, test scoring, and analysis of test results.

The results of UN are used as one consideration for: mapping of quality program and/or education unit; basic education for the next level of education; and determining the graduation of students from junior high school, senior high school, vocational school, package B, and Package C; andbasic establishment and financial support for education unit in its efforts to improve the quality of education. Other requirements that must be achieved by students in order to graduate from the education unit at primary and secondary education are: complete the entire program of learning; obtain a minimum score on the final assessment for both the whole group of subjects religious subjects and character, citizenship subject groups and personalities,

aesthetics subject groups, and group physical subjects, sports, and health; and pass the school examination.

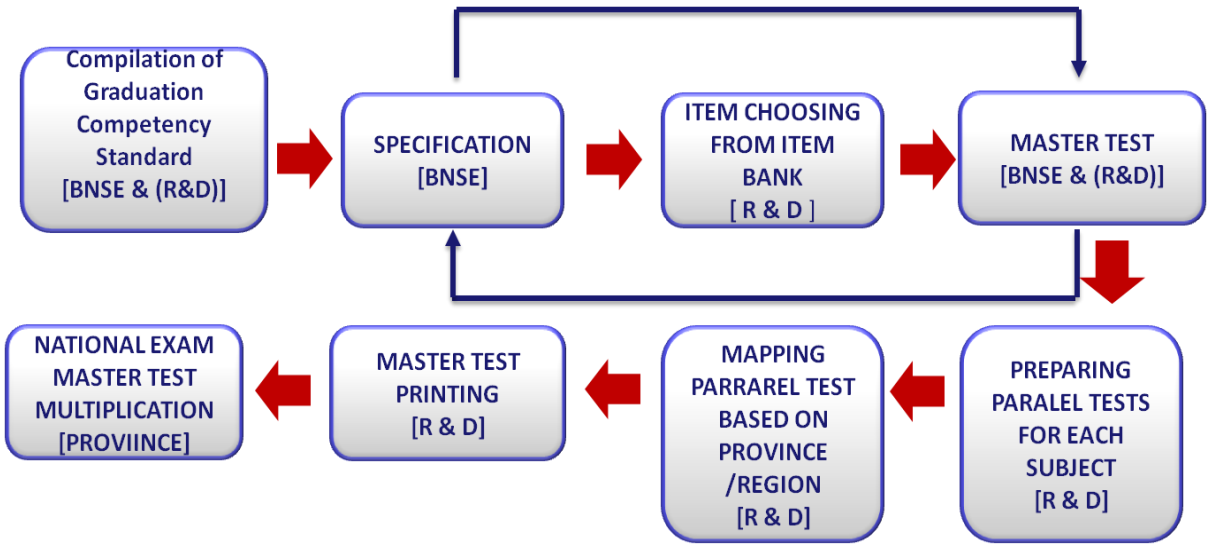
Subjects tested in UN can be seenin the following table:

Subjects	Elementary School	Junior High School	Senior High School			Vocational School
			Science Program	Social Science Program	Language Program	
Indonesia	✓	✓	✓	✓	✓	✓
English	✓	✓	✓	✓	✓	✓
Mathematics	✓	✓	✓	✓	✓	✓
Science		✓				
Physics			✓			
Chemistry			✓			
Biologi			✓			
Economy				✓		
Sociology				✓		
Geography				✓		
Indonesia Literature					✓	
Anthropology					✓	
Foreign Languages : Arabic, Japanese, German, French, Chines					✓	
Skilled Competency						✓

Examination Standards

In 2013, Graduation of students from national examinations is determined by the final value (NA). NA obtained from the average value of the combined value of school subjects tested in national examination and national examination scores with formula 60% of the national exam and 40% of the school value. School value obtained from the combined average school examination scores and school report average value of semesters 7, 8, 9, 10, and 11 for elementary school, semesters 1, 2, 3, 4, and 5 for junior high school, semesters 3, 4, and 5 for senior high school with a formula of 60% the school exam and 40% of shool report. Graduation criteria established by the council meeting of teachers by: minimum score of each subjects tested in the national examination; and average score of three subjects tested in the national examination for elementary school. For junior high school and senior high school, a student will be stated as graduate if he/she fulfill national examination passing standard: having minimum average score of all final value is 5.5; and minimum score of each subject 4.0.

National exam materials preparation can be seen in the following chart:



Testing Procedure

a. Depeloving Table of Spesification

Table of spesification is based on standard of competences and basic competences. Preparation of it involving teachers, lecturers, and experts in test contruction

b. Item Writers

Item writers are teachers who have been trained technical writing by Center for Educational Assessment. We arrange the workshop to contruct the test item and select the valid test item with related to content, basic competences, level difficulty, and language rules.

c. Item Validation

Validation of items done by teachers, lecturers, and experts in test contruction.

d. Piloting Test Items

Piloting test items carried out continuously in a sample schools in the province with respect to differences in the quality of eductaion in the region. It uses some parallel package test.

e. Security Procedure

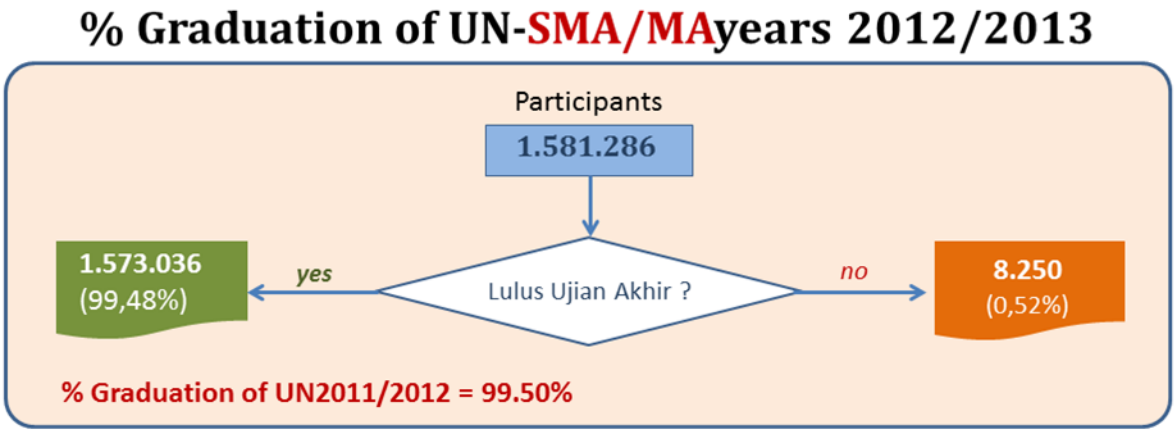
Master test printing performed by several printing company and by security printing procedure.

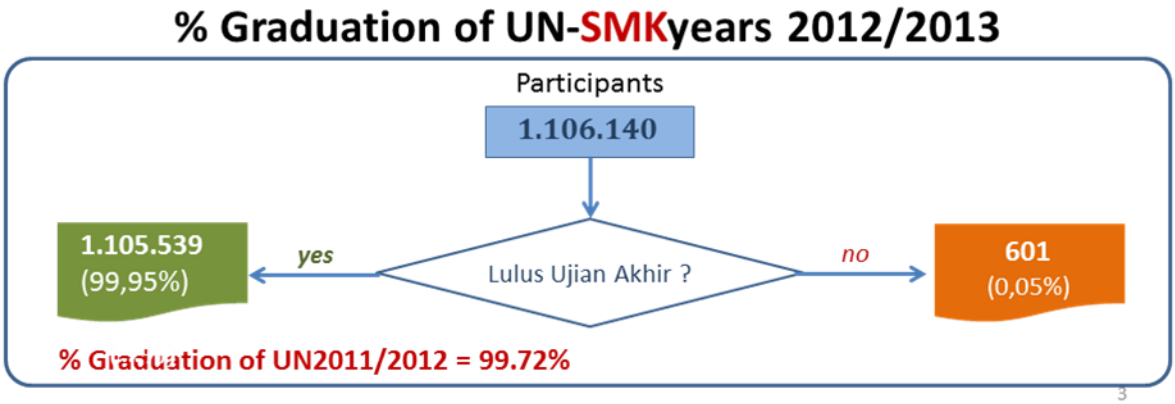
f. Item Analysis

Analysis of test items using classical and modern test theory (IRT).

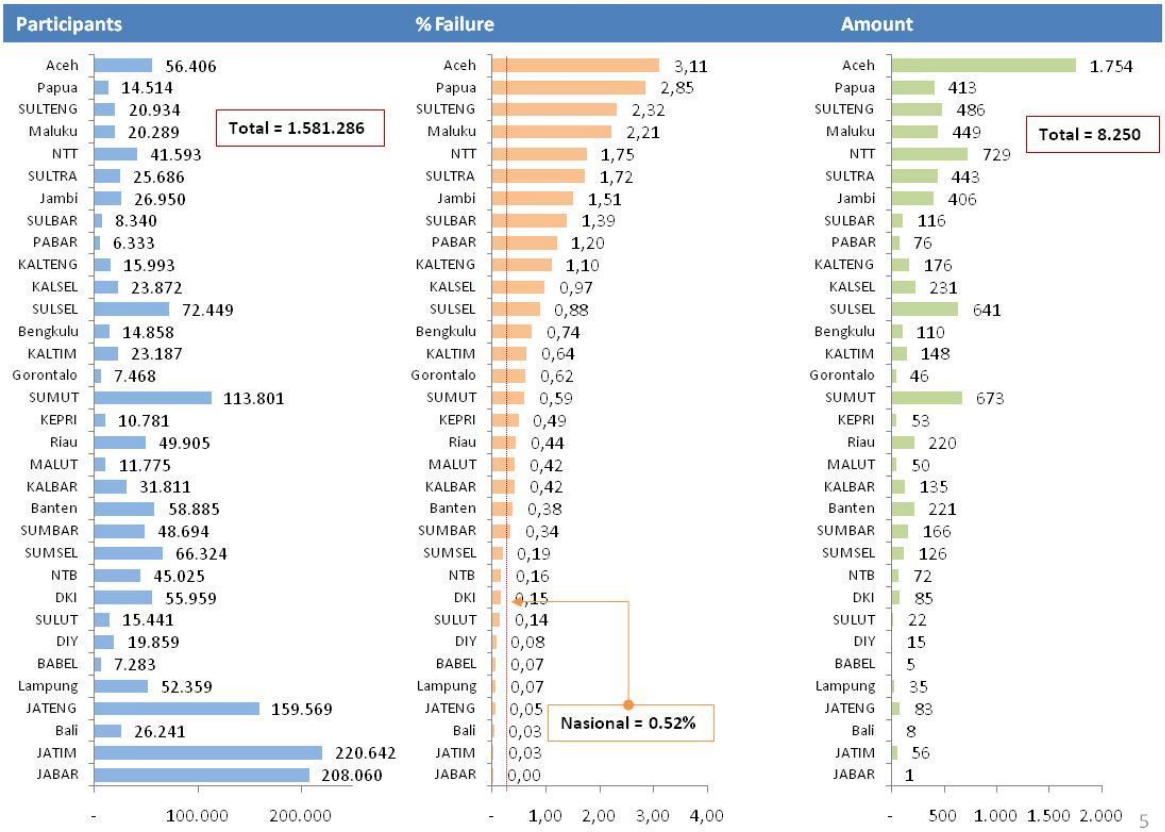
Results

a. Results of the Examination

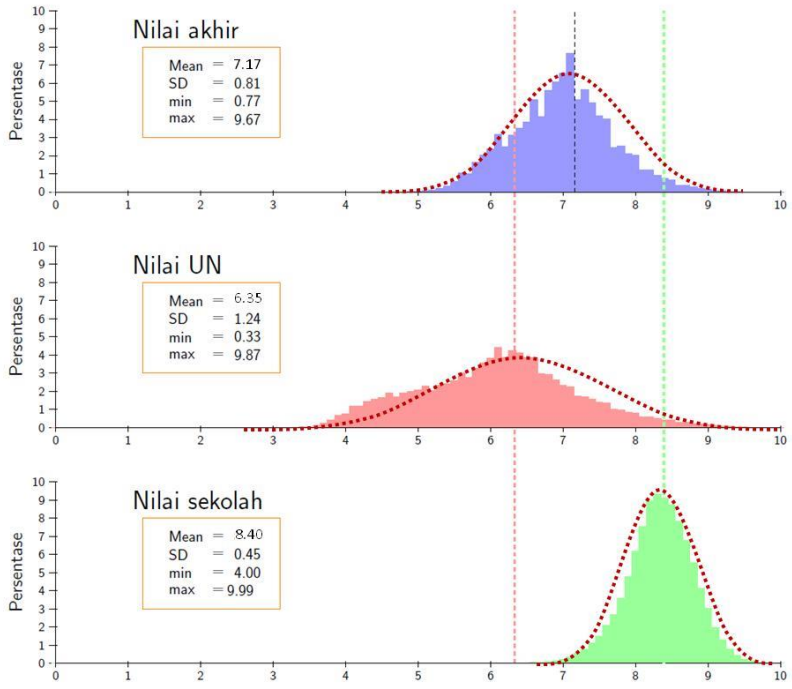




% Failure of UN SMA/MA Years 2012/2013
Every Province



Distribution NA of UN SMA/MA Year 2012/2013



7

NA (Nilai Akhir) = Final Score

b. The Use of the Test Scores

✓ To admit a student to a program

✓ To make an exit decision

To place a student into an appropriate class of program

✓ To gather information regarding students' achievement

✓ To diagnose students' learning ability/progress

Innovation/The Use of Technology

We used the modern mechine of scanner for scorring.

Problems, Obstacles, Solution

Since national examination is high stake testing, cheating and security are the main problem. In order to prevent these, BNSE and center for educational assessment always refines standard operating procedure by involving some related institution and in 2013, the number of test package used in accordance with the number of test takers in the test room.

The obstacles are geographical locations in several provinces are not the same. Specific solution areas that are difficult to be reached by land transportation are given preferential policies, for example, the distribution of the test is given early and given special protection.

Issues and Trends of National Assessment

There is a desire to improve the national examination passing standard from 5.5 to 6.

In addition, there is the idea of a national exam by using internet or online test. Computer adaptive testing will be our national priority for alternative of national assessment in the future. Computer based test that adapts to the examinee's ability using item response theory and selection of item dificulty based on student ability (on target). It is more effective and efficient, eliminate student's cheating enhance security of examination immediate result.

Japan

Name of organization

The National Center for University Entrance Examinations
(Daigaku Nyu-shi Center in Japanese)
Komaba 2-19-23, Meguro-ku, Tokyo 153-8501, Japan
Official website: http://www.dnc.ac.jp (in Japanese)

Director

Hiroki Yamamoto (President)

Vision

The National Center for University Entrance Examinations (NCUEE) aims to improve the selection process for university admission in Japan and thus contribute to the advancement of university and high school education in cooperation with universities.

Mission

The main mission of NCUEE is to undertake the National Center Test (NCT) in cooperation with universities. NCUEE handles question creation, testing procedures, evaluation, and score notification in collaboration with universities throughout the country in order to assess the basic academic achievement of university applicants at the high school level.

Organization structure

See figures in the booklet "NCUEE overview."

Development of national testing and examination system

Test item writers are university professors. There are three types of committees related to item development: (1) item writing committee; (2) item reviewing committee, with committee members being professors experienced in NCT item development; and (3) item moderation committee between subjects. Another committee is composed of high school teachers. These committees review the adequacy of test items developed for high school

education.

Text/Examination standards

The NCT primarily aims to measure the basic academic achievement of applicants. NCT items are designed to conform to high school educational programs. The intended average score in the NCT is 60% of the total score. NCUEE does not use modern test theory for equating the difficulties of the NCT items. A conservative policy for score adjustment is adopted. If extreme differences appear between the mean scores in the same subject area, the score adjustment is employed.

Testing procedures

a. Item writers: Test item writers are professors. Their nomination is based on the recommendations of former item writers or academic associations.

b. Item validation: Test items developed by the item writing committee are reviewed by other committees before fixing the final version. We adopt an anonymous review system between the committees. After the test operation, item evaluation committees issue official evaluation reports.

c. Piloting test items: We do not operate any piloting tests. Whole test items are open to the public immediately after the test operation.

d. Security procedure: We define rigid guidelines for item writing activities and test operations.

e. Item analysis: Item evaluation reports are issued by evaluation committees. Basic statistics are reported to the public immediately after the completion of scoring. Although item-wise statistics are not open to the public, they are reported to the item writing committees. More detailed statistical analyses based on classical and/or modern test theory are performed by the research division. Past item statistics are organized as a database. The database is used in-house.

Results

a. Examination results: Scores for subjects. Raw scores are reported except in cases of score adjustment. The scores are sent directly to universities.

b. Use of test scores: To admit a student into a program.

Innovation and technology

We use IC players (a custom-made device) for the English listening comprehension test. About a half million devices are simultaneously operated.

Problems, obstacles, and solutions

One of the current criticisms against the NCT is that the test operations are too complex.

Issues and trends in national educational assessment

The Central Educational Council is considering reforming the university admission system. Some members of the council believe that applicants' potential for academic and businesses achievement should be given more weight.

Japan

Name of Organization

The National Institute for Educational Policy Research (NIER)

3-2-2 Kasumigaseki, Chiyoda-ku, Tokyo

http://www.nier.go.jp/English/index.html

http://www.nier.go.jp/

Director

Haruki Ozaki

Vision

NIER, as a national research body for comprehensive educational policy, is responsible for collecting and analyzing academic research data. The data is needed to plan and design educational policies. In addition, NIER represents Japan in international society, and provides necessary advice, support, and information for domestic institutes and bodies related to education.

Mission

As mid-term goals, NIER is aiming to achieve the following:

a. To present findings obtained from scientific surveys, analysis, and predictions of worldwide situations surrounding education for Japan's future policies. The findings should be used to plan and design strategic educational policies in the mid and long term.

b. To conduct scientific surveys of and analyze the current situation and social background for solutions to urgent political issues. The outcomes should be used to plan and design educational policies which flexibly address social needs.

c. To give help, support and advice about social and school education activities where necessary.

d. To gather, file and store educational information, data, and documents and make available to interested parties in Japan and abroad.

e. To collect knowledge and promote information sharing for educational research with bodies in Japan and abroad. This can be done by implementing international education cooperation, holding conferences, and conducting joint research studies.

Organization structure

- Organization of the Ministry of Education, Culture, Sports, Science and Technology
- Organization of the National Institute for Educational Policy Research

Development of national testing and examination system

For the purpose of establishing the Plan-Do-Check-Action (PDCA) cycle in educational practices, since FY2007, the National Assessment of Academic Ability has been carried out regularly. This Assessment is implemented by the Curriculum Research Center of NIER in collaboration with the Ministry of Education, Culture, Sports, Science and Technology (MEXT) with the support of municipal boards of education, school corporations and other bodies for the maintenance and enhancement of equality of opportunity in compulsory education.

Test/Examination standards

The National Assessment of Academic Ability seeks to ascertain and analyze the academic abilities and learning patterns of schoolchildren throughout Japan and to investigate the outcomes of educational policies and programs. It also aims to identify issues requiring attention, and achieve improvements therein.

The assessment measures abilities in the subjects of Japanese and mathematics among sixth-year elementary school students and third-year lower secondary school students. In addition to Japanese and mathematics, abilities in science were measured in 2012. The Curriculum Research Center of NIER is responsible for producing the assessment questions and explanatory guidelines, and for analyzing and reporting on the results.

Testing Procedure

a. Item writers

The Curriculum Research Center of NIER sets up working committees for the

assessment of item development. The members of the committees are expert teachers, supervisors of municipal boards of education & university professors. Names of committee members and details of recruiting are confidential.

b. Item validation

The methods of item validation are not disclosed.

c. Piloting Test Items

The methods of piloting item are not disclosed.

d. Security procedure

All operations in the MEXT, NIER and contractors are tightly controlled, and its procedure is not for disclosure.

e. Item analysis

Items are analyzed in the course of the development in terms of academic ability to be measured by the items, relevance to the curriculum, and typical errors made by students.

Results

a. Results of the examination

Data on national average and prefectural average are released to the public. Results of local educational district, school and child are delivered to each.

b. The use of the test scores

.....To admit a student to a program

.....To make an exit decision

.....To place a student into an appropriate class or program

X.....To gather information regarding students' achievement

X.....To diagnose students' learning ability/progress

X.....Others

Innovation/The use of Technology

All of assessment items, information obtained from item analysis, results of assessment and information acquired from utilizing the result are posted on the Web.

Problems, Obstacles, Solutions

When the results of assessment are released, much focus is put on the ranking of the scores of each prefecture. However, there have been discussions on what are the abilities that need more attention in everyday lessons for further development.

Issues and trends of national assessment in education

In the 1960s, there was a nationwide assessment implemented in Japan. At that time, there was a large gap between the results of urban areas and rural areas. However, there exists no such gap in educational quality between urban and rural today.

Lao

Name of organization

Education Standard and Quality Assurance Centre (ESQAC)

Ministry of Education (MOE)

Lao PDR

(The Educational testing in Lao PDR can be categorized to 4 groups: grade promotion, graduation decision, post basic education entrance examination, and Assessment of student learning outcome. The responsibility and implementations of these tests are not belonging to united organization. They are separated by the level of education management, which will be mentioned later. Therefore, ESQAC has been established in 2008 under MOE to perform as a consultative body about national testing to the MOE.)

Vision

Through the enhancement national educational testing and develop national Quality Assurance system, The National Education quality can be improved and assured that there are no big gap between remote area, rural area, and city area, everywhere living Lao pupils can be able to access the qualified education. The country wide education quality can be improved, approached and linked with the regional and international.

Mission

The ESQAC has the responsibility to cooperate with other concerned departments to Reform National Educational Testing System and Develop the Quality Assurance and Accreditation system.

With the testing issue, ESQAC has to provide the testing information, its result, and improvement recommendation to MOE; cooperate with related departments to implement the national testing.

Organization structure

The ESQAC has **5** divisions as: Administration, Testing, and Quality Assurance as shown in figure 1. For overview of the centre location, refer to figure 2.

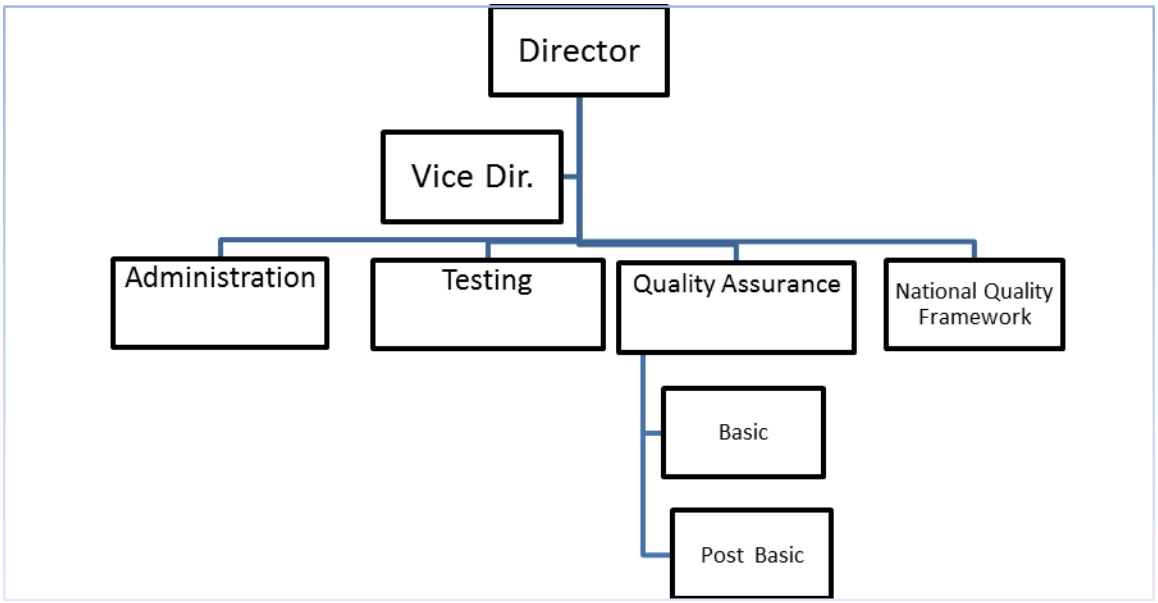


Figure 1 ESQAC structure

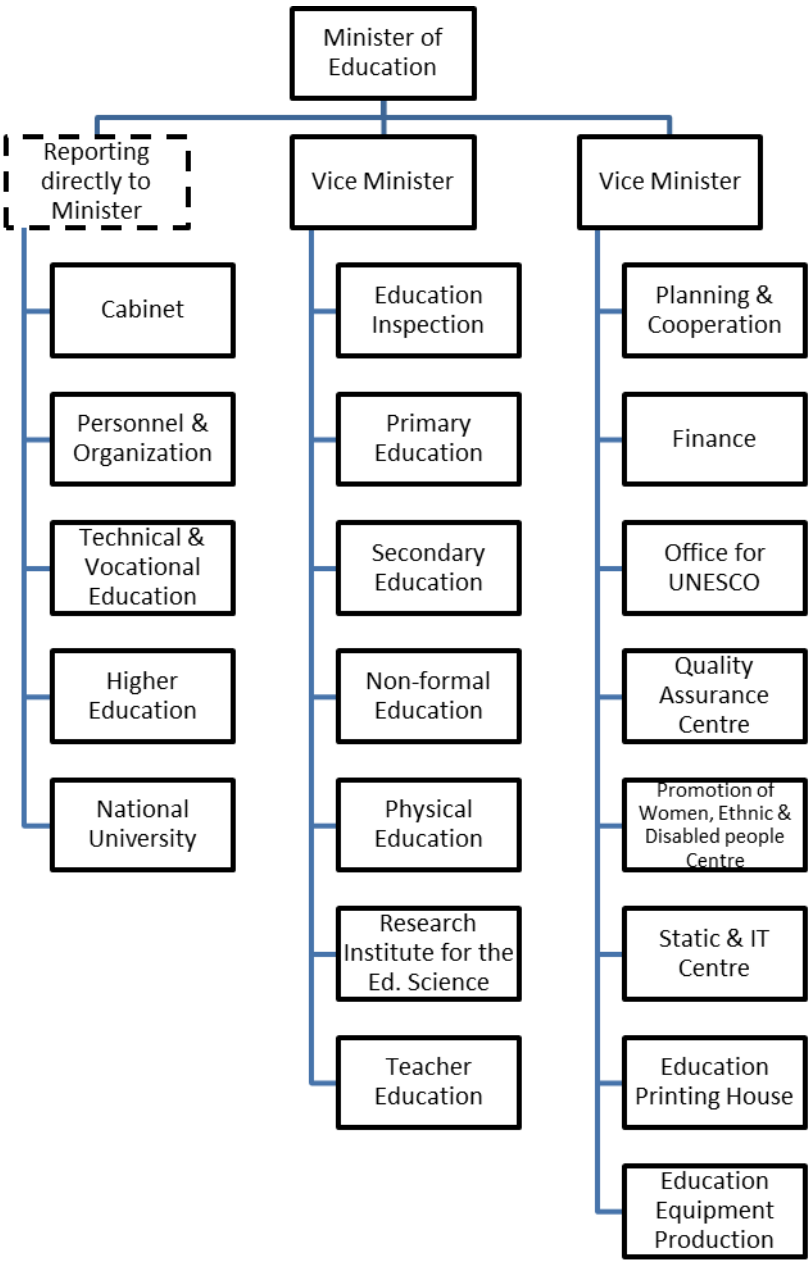


Figure 2 Educational Administrative System in Lao PDR

Testing procedure

At the present, there are many educational testing concerned organizations, which are listed as follows table 1, and they are arranging under MOE, or the local office in province and district those have the vertical line connected with MOE (Horizontal line with Provincial Administrative Office).

As mention above, the national educational testing is included by grade promotion, graduation, entrance, and ASLO.

a. Grade Promotion

For the grade promotion is entrusted to the schools themselves (SE), which basically based to the semester testing and extra test for the students who failed the semester test.

Table 1 The organizations and educational testing

No	Name of Organization	Type of Testing	Grade	Related with MOE
1	District Education Bureau (DEB)	Graduation	5	Vertical line
2	Department of Secondary Education (DSE)	Graduation	8	Vertical line
3	Department of Secondary Education (DSE)	Graduation	11	Directly
4	Department of Higher Education (DHE)	Entrance	Post 11	Directly
5	Department of Teacher Education (DTE)	Entrance	Post 11	Directly
6	Department of Technique-Vocational Education and Training (DTVET)	Entrance	Post 11	Directly
7	Research Institute for Education Science (RIES)	ASLO	5	Directly
8	Education Standard and Quality Assurance Centre (ESQAC)	-	-	Directly

b. Graduation Decision

The graduation decision is based on the national testing, which is held in 3 times as graduation of Primary Education (Grade 5), Lower Secondary Education (Grade 8), and Upper Secondary Education (Grade 11). Since this fiscal year the education system has been reformed from 5+3+3 to the 5+4+3. The graduation testing is moved to Grade 5, Grade 9, and Grade 12. All the graduations testing will be implemented in last of June, after the second semester. The testing implementation committee will be set for each graduation tests to assure the unification in each level.

Table 2 The summary of graduation testing

	Graduation 5	**Graduation 8**	**Graduation 11**
Advisory Com.	*District*	*Province*	*Central*
Test paper	*District*	*Province*	*Central*
Implementation	*District*	*Province*	*Province*

The Grade 5 graduation testing will be organized by districts, the test paper preparing, test implementation, marking are unified by district level and graduation decision are also considered by each districts themselves. The Grade 8 graduation testing will be organized by provinces and Grade 11 by central as summarized in table 2. However, the implementation for Grade 11 is entrusted to provinces. The central (DSE) takes responsibility to develop test paper and distribute to each test centers.

There is only the Grade 11 testing is being unified for whole schools in the country. Every fiscal year, the Central Advisory and Testing decision Committee, which chaired by Vice Minister of Education is assigned. Following by the Provincial Advisory and Testing decision Committee Chaired by each province Vice Governor and Test paper production team arranged by Department of secondary education.

The committees are placed with general advisory and decision whole things occurred. However, the Provincial Education Service offices have to play the main role on side of implementation. The test paper is produced within around one month. The production team has to be limited at the security room until the testing finished. The marking process will be done by each province, only the testing score and results are provided to the central.

With the reformed education system, new graduation testing will be changed as shown in table 3. The lower secondary graduation testing will be more focused by the national unification testing as upper secondary graduation.

Table 3 The new concept graduation testing

	Graduation 5	Graduation 9	Graduation 12
Advisory Com.	*District*	*Central*	*Central*
Test paper	*District*	*Central*	*Central*
Implementation	*District*	*Province*	*Province*

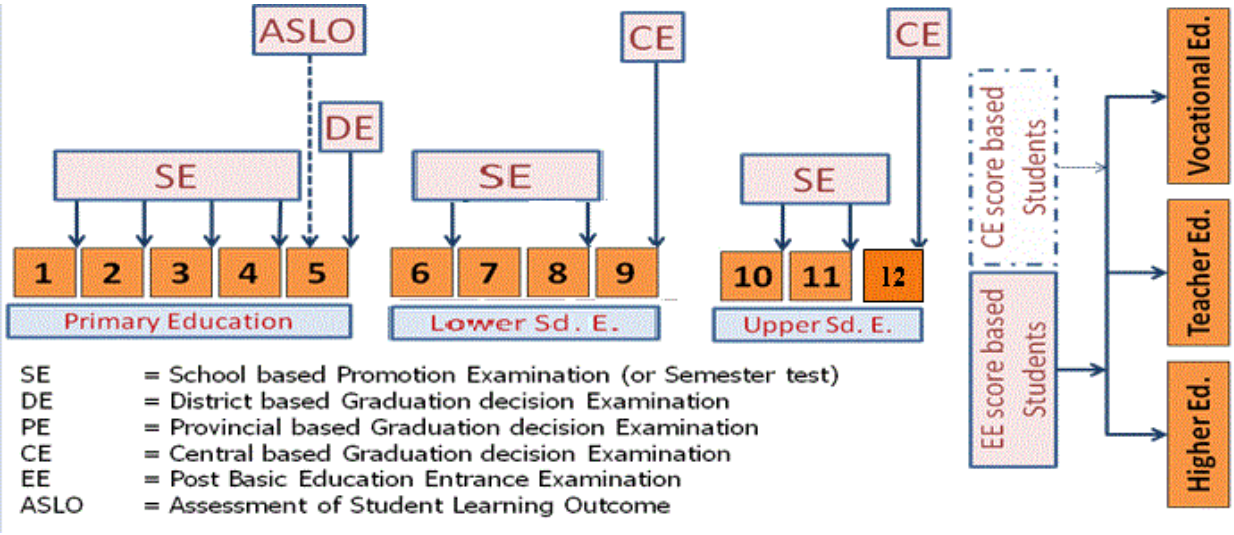


Figure 3 Educational Testing System in Lao PDR

c. Entrance Examination

After graduated from basic education, students can step up to 3 pathways such as: higher education, vocational education, and teacher education. The concerned departments (DHE, DTE, and DTVET) conduct the entrance examination to select student for the institutions under their controlling.

There are 3 roots for students to entry to public post basic education such as University, Technical and Vocational College, and Teacher Training Institute as follows.

- The student selected based on the Grade 12 Graduation testing.
- The student selected based on the Common Entrance Examination.
- The student selected based on the Individual Entrance Examination.

The first group is called Quota student, who will be provided the scholarships from government. The selection is based on the graduation testing score and provincial policy and done by each province with number of seat and fields of study from the MOE.

The second group is called Non-quota system, which has to pass the national common entrance examination. The number of student from this group is limited by MOE with specific ratio to the first group. Students in this group have no allowance from the government, but not need to pay for tuition.

The third group is called Special-course student, which will be selected by institutes themselves through the individual entrance examination. These students have to pay for tuition and others fee as studying in private institutions.

d. Assessment of Student Learning Outcome (ASLO)

The ASLO has been done by the Research Institute for Education Science for many times with student Grade 5. RIES has the mission basically to research and develop the basic education curriculum, textbook, teaching material, learning archive assessment, etc.

Result, Problem, and Solution strategy

In general, there are no big problems when only the testing implementation is considered; only the budget issue is focused and discussed at a while. However, in near future, the objective, fairness, accuracy of the testing, and responsibility of each concerned organizations are mainly focused.

a. Grade promotion testing

The grade promotion is entrusted to the schools, and it is look seem that there are no changes with both policy and implementation by near future.

b. Graduation Decision Testing and Entrance Examination

The common problems of the testing in Lao PDR are summarized as following.

- The budget to implementation
- The accurate data about student
- The lax invigilation of invigilator
- The fairness and accuracy of marking

For the graduation testing, since the implementation are entrusted to province and done with country wide scale, the another issues are occurred as following.

- The difficulty of accessing to remote area.
- The delay of reporting from province
- The application of testing results (feedback to curriculum and teaching improvement)

These testing problems are recognized and discussed during concerned departments. However, there are no the cleared way out can be found yet.

c. Assessment of Learning Outcome

For the ASLO, there is not too long history for the implementation. There are no big problems on the fairness and accuracy, since it is not directly relate to student step up and graduation problem. However, the budget problem, suitable assessment grade, and application of the results are very importance and discussed to improve and assure the national education quality issue.

Other

Due to the national testing system is being reformed; this report is mainly described on the existing system and future directions. Though ESQAC has no virtually implemented result for the testing, they are established to be a main organization to cooperate with several concerned departments to reform the national testing system for more efficiency testing implantation and apply able results.

The rich lessons and experiences from the neighboring countries are very useful and considered as importance material for Lao PDR national testing system. The cooperation and sharing experience during neighboring countries is expected in near future.

MALAYSIA

Name of Organization

Malaysian Examinations Council (MEC)
Persiaran 1, Bandar Baru Selayang
68100 BATU CAVES
Selangor Darul Ehsan
Malaysia
Website Address: www.mpm.edu.my

Acting Chief Executive

Mr. Haji Mohd Fauzi bin Datuk Haji Mohd Kassim

Vision

MEC's vision is to become an assessment body that generates accurate assessment which can holistically measure an individual's potential in line with universal values and norms by 2025.

Mission

MEC's mission is to develop and manage various forms of assessment which contribute to the development of credible, versatile and progressive human capital.

Background of the Malaysian Examinations Council (MEC)

a. Malaysian Examinations Council

The Malaysian Examinations Council (MEC), which was established on 1 February 1980 under the Malaysian Examinations Council Act (Act 225), is a statutory body which operates under the aegis of the Ministry of Education. It was officially launched on 22 April 1980. The objective of the establishment of MEC is to conduct specified examinations and all other matters necessary or related to such examinations. The examination gazetted is the Sijil Tinggi Persekolahan Malaysia (STPM), which was first implemented in 1982 to replace the Higher School Certificate (HSC) and Sijil Tinggi

Persekolahan (STP) examinations which were conducted by the University of Cambridge Local Examinations Syndicate (UCLES).

After the takeover of the STP and HSC examinations by MEC, the names of these examinations were changed to Sijil Tinggi Persekolahan Malaysia (STPM) (Malaysia Higher School Certificate Examination). MEC was also established to realise the aim of conducting the examination wholly in the Malay language. This is in line with the implementation of the policy to use the Malay language as the medium of instruction in the national education system from the primary level to the pre-university level, namely the sixth form. After a series of negotiations with the Ministry of Education, UCLES handed over the responsibility of conducting the examination to the Ministry of Education with effect from 1982. MEC took over the functions of UCLES. 30 years have passed and MEC still maintains close relations and co-operation with UCLES in the form of consultancy services for the setting of STPM standards.

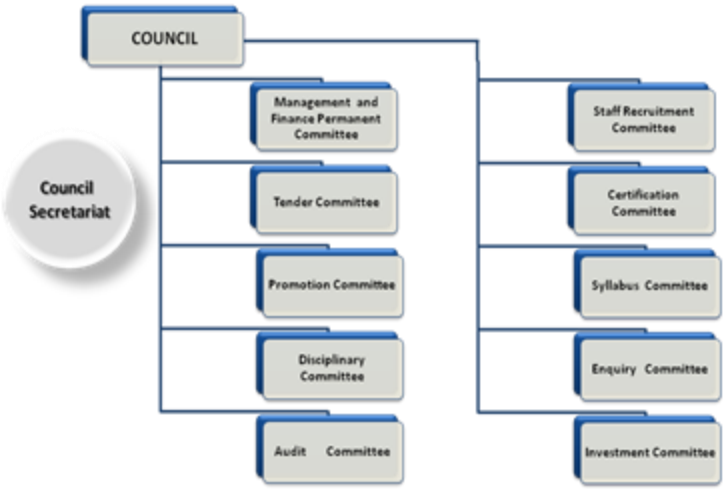
The STPM is a pre-university examination taken by students who wish to further their studies at public universities in Malaysia and abroad. It is internationally recognized by many universities in the Commonwealth countries. Most universities consider the STPM results equivalent to the GCE A Levels results.

b. Council

The highest body which determines policies and makes decisions in the Malaysian Examinations Council is the Governing Board of the MEC, also known as "the Council". Members of the Council consist of the vice chancellors of all local public universities, the Secretary-General of the Ministry of Education, the Director-general of Education, the Director of Examinations, the Chief Executive of MEC and five members appointed by the King. The chairman of the Council is appointed by the King from amongst the vice-chancellors.

c. Organisation Structure of the Council

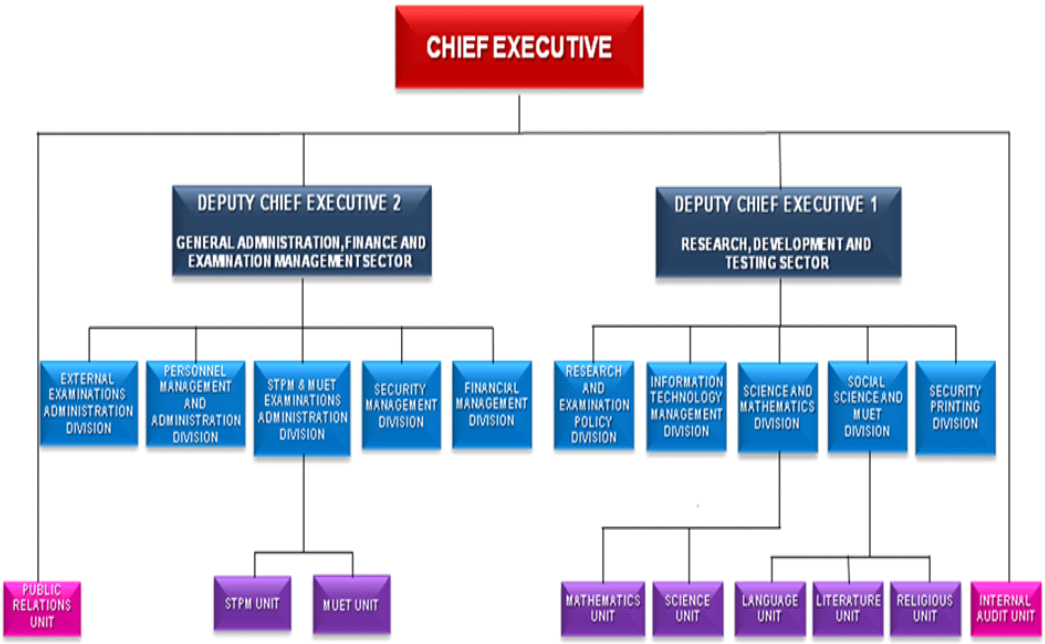
To perform the functions of the Council and to ensure that internal control systems of the Council are consistent, the Council established ten committees. The committees established are as follows:



d. Council Secretariat

The operations of MEC are carried out by the Secretariat which is responsible to the Council. The Secretariat is headed by the Chief Executive, who is the chief executive, chief administrative and chief academic officer.

e. Organization Chart of MEC



f. Objectives of MEC

MEC's objectives are:

a. to prepare and publish comprehensive and appropriate examination syllabuses and test specifications for the STPM and MUET
b. to prepare examination papers that are accurate, valid, reliable and equitable for the STPM, MUET, MUnSyI, Shariah RFP, Shariah RFP Capstone, and Shariah RFP Adhoc PNBi examinations
c. to coordinate the registration of candidates for the STPM examination and MUET
d. to administer the STPM, MUET, MUnSyI, Shariah RFP, Shariah RFP Capstone, Shariah RFP Adhoc PNBi and CaSIM examinations efficiently and fairly
e. to issue the STPM, MUET, MUnSyI, Shariah RFP, Shariah RFP Capstone, and Shariah RFP Adhoc PNBi and CaSIM examination results of which the standards are recognised by receiving institutions

To ensure the standards of STPM and the Malaysian University English Test (MUET) are maintained at pre university level, MEC works closely with experts from all local institutions of higher learning in the design of examination syllabuses/test specifications, building of question papers, marking of answer scripts and the setting of standards for the STPM and MUET

g. Functions of MEC

Since its establishment, the MEC's scope of responsibilities expanded from its initial function of conducting only the STPM examination. In 1999, it was tasked with conducting the **Malaysian University English Test (MUET)**, a compulsory English language proficiency test. This test is for all students who intend to further their studies in public institutions of higher learning. MUET is conducted three times annually, March, July, and November and is open to any candidate who is ready to take the test.

The test components are as follows:

Paper code	Paper	Duration	Weighting	Maximum score
A800/1	Listening	½ hour	15%	45

800/2	Speaking	½ hour	15%	45
800/3	Reading	1½ hours	40%	120
800/4	Writing	1½ hours	30%	90

MUET measures and reports candidates' level of proficiency based upon an aggregated score range of zero to 300. Students are placed on an aggregated score of six bands, i.e. from Band 1 to Band 6. Candidates' MUET results are valid for five years from the date of issue of results.

MUET band description:

AGGREGATED SCORE	BAND	USER	COMMUNICATIVE ABILITY	COMPREHENSION	TASK PERFORMANCE
260 – 300	6	Highly proficient user	Very fluent; highly appropriate use of language; hardly any grammatical error	Very good understanding of language and context	Very high ability to function in the language
220 – 259	5	Proficient user	Fluent; appropriate use of language; few grammatical errors	Good understanding of language and context	High ability to function in the language
180 – 219	4	Satisfactory user	Generally fluent; generally appropriate use of language; some grammatical errors	Satisfactory understanding of language and context	Satisfactory ability to function in the language
140 – 179	3	Modest user	Fairly fluent; fairly appropriate use of language; many grammatical errors	Fair understanding of language and context	Fair ability to function the language
100 – 139	2	Limited user	Not fluent; inappropriate use of language; very frequent grammatical errors	Limited understanding of language and context	Limited ability to function in the language
Below 100	1	Very limited user	Hardly able to use the language	Very limited understanding of language and context	Very limited ability to function in the language

The MEC also conducts the **Malaysian University Selection Inventory test (MUnSyI)**. Every year after the STPM results are released, a large number of students apply to Universiti Sains Malaysia (USM) the first APEC University in Malaysia for its undergraduate programmes. As these students are highly qualified, selection became a daunting task for the university authorities responsible for student intake. MUnSyI, a psychometric test, was thus designed and introduced to aid the selection process.

MUnSyI is a 310-item instrument designed to capture four intrinsic qualities of students. The qualities are personality, career interest, integrity and emotional quotient. Personality and career interest are the two major components in MUnSyI. MUnSyI is high stakes in nature. The test is a paper and pencil multiple-choice item test carried out within a 60 minute time limit.

The first MUnSyI test was administered on 18 April 2009.

From 2010, MEC signed a Memorandum of Understanding with the Malaysian Financial Planning Council (MFPC) to conduct the Shariah Registered Financial Planner (Shariah RFP), Shariah Registered Financial Planner Capstone and Shariah Registered Financial Planner Ad-hoc PNBi (Shariah RFP Adhoc PNBi) examinations.

From 2012, MEC conducts the Career Selection Inventory for Malaysians test (CaSIM), a psychometric measurement instrument to measure the compatibility between an individual's characteristics and field of employment. This test is used by employers to shortlist new staff recruitment, the relocation of existing staff and, for the planning of an organisation's human capital taking into account the staff's psychometric factor. This instrument was developed by a committee comprising of psychometric experts from local universities.

h. Activities of MEC

The activities carried out by MEC in conducting examinations are as follows:

- Preparing regulations and examinations schemes
- Revising and designing examination syllabuses
- Setting and preparing question papers and examination materials
- Coordinating the registration of examination candidates
- Coordinating the administration of examinations and the marking of candidates' answer scripts
- Processing of examination results
- Setting standards for papers and subjects and awarding examination results

- Reviewing candidates' enquiries of examination results
- Training of officers and staff
- Studying and researching the behaviour of candidates and other matters pertaining to examinations

Development of National Testing and Examination System

- **Historical Context**

The development of the Malaysian examination system may be divided into four phases.

The Pre Independence Phase

Malaysia is a multi-ethnic country. During pre independence days under British colonial rule the system of education was diverse and lacked uniformity as schools were set up based upon communal needs with different medium of instruction, curriculum, methods of instruction and standards for children of the different ethnic groups, the Malays, Chinese and Indians. Two types of schools were set up: the English medium and the vernacular schools. The English medium schools established by the British, individuals and missionaries provided a western education for the mixed urban population. Malay vernacular schools were established by the government whilst the Chinese and Indian communities set up Chinese and Tamil vernacular schools. Secondary education was available in English government and mission schools as well as in independent Chinese schools.

The Implementation of the Razak Report (1956)

A special committee was set up in 1956 to work out a policy to make Malay the national language while preserving the languages and cultures of the other races of the Federation of Malaya. The recommendations of this Committee contained in the Report of the Education Committee 1956, commonly referred to as the Razak Report, formed the basis of the Education Ordinance of 1957, which laid the foundation for the National Education Policy. One outcome of this was the establishment of the Malaysian Examinations Syndicate which started off as an Examination Unit in the Ministry of Education on 3rd May 1956. This unit administered centralised examinations such as the Malayan Secondary School Entrance Examination (MSSEE) , the Joint School Certificate and the Malaysian Certificate of Education for Cambridge. This unit became the Malaysian Examinations Syndicate (MES) in 1957, the year Malaysia achieved independence. MES' s role was to conduct a national examination system for

all schools in the country. MES is now a national examination board which develops examinations for 1.5 million candidates annually.

The Implementation of the Rahman Talib Report (1960)

This report emphasized 15 years of education for all children. Children were automatically promoted to secondary education from primary school and to the academic or vocational streams.

The Implementation of the Cabinet Report (1979)

In 1978, the Malaysian Examinations Syndicate took over the whole management of the national examinations from the University of Cambridge (UCLES). The Cabinet Report led to the implementation of the Primary School Achievement Test (UPSR-Ujian Pencapaian Sekolah Rendah). The Lower Secondary Examination called the Lower Certificate of Education (LCE) was replaced by the Sijil Rendah Pelajaran (SRP) which was later renamed Penilaian Sekolah Rendah (PMR). The Malaysia Certificate of Education (MCE) examination was replaced with the Sijil Pelajaran Malaysia (SPM).

In 1980, the Cabinet Report also led to the formation of the Malaysian Examinations Council (MEC), a statutory body under the Ministry of Education Malaysia. The MEC was given the responsibility of administering the Sijil Tinggi Persekolahan Malaysia (STPM) or Malaysia Higher School Certificate which replaced the Higher School Certificate (HSC) examination initially coordinated by the University of Cambridge Local Examinations Syndicate (UCLES) in collaboration with the University of Malaya. From 1982 the STPM was run by MEC and the HSC was abolished. The open certificate was introduced and candidates were allowed to take a minimum of one subject up to a maximum of five subjects including General Studies in one sitting. The award of a certificate requires a minimum of a pass in one subject at principal level.

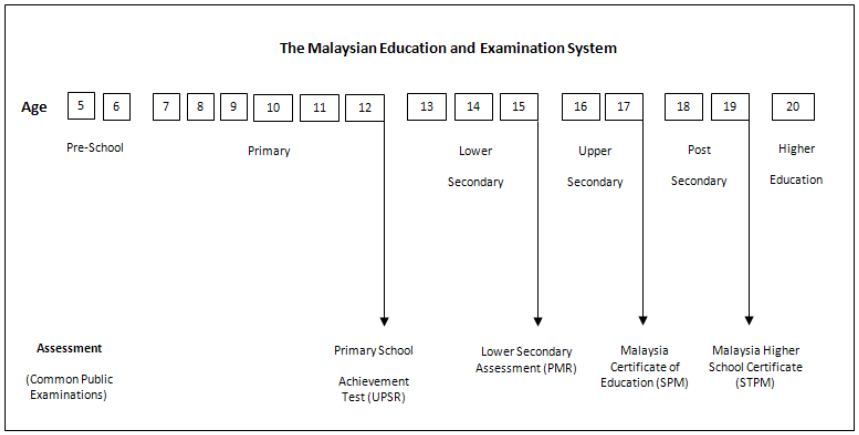
Education in Malaysia has undergone accelerated change. The education system is responding to new technological developments and economic progress, strategies, reforms and policy changes are being initiated into the education system to cope with the impact of globalisation. The mission statement of the Ministry of Education is to develop a world class quality education system which will realise the full potential of the individual and fulfil the aspirations of the Malaysian nation in order to enable Malaysia to make the quantum leap towards an industrialised nation status and eventually produce a world-class workforce.

The National Philosophy of Education was formulated to reinforce the direction and goals of education in Malaysia.

> *Education in Malaysia is an on-going effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, emotionally and physically balanced and harmonious based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving a high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large.*

Malaysia provides 13 years of free schooling. Children between the ages of four and six begin their education at pre school. At the ages of seven to twelve, they undergo primary education. At the end of primary education, an assessment examination known as the Primary School Achievement Test (*Ujian Penilaian Sekolah Rendah*) evaluates student performance. School-based assessment is also conducted besides the centralised examination.

The lower secondary level covers a period of three years (Form 1 to Form 3). At the end of Form 3, students sit for the Lower Secondary Assessment examination (Penilaian Menengah Rendah). The upper secondary level span two years (Forms 4 and 5) at the end of which students take the Malaysia Certificate of Education (Sijil Pelajaran Malaysia) which is an open certificate examination. Students who continue to post secondary stage (Lower and Upper Sixth Form) sit for the Malaysia Higher School Certificate (Sijil Tinggi Persekolahan Malaysia), also an open certificate examination which allows any combination of subjects to be taken.



- **Sijil Tinggi Persekolahan Malaysia (STPM)**

The *Sijil Tinggi Persekolahan Malaysia* (STPM) or Malaysia Higher School Certificate (MHSC) examination is usually taken after 13 years of education and is based on approximately 240 hours of guided learning over a one and a half year period. The main purpose of this examination is for entry into institutions of higher learning. The STPM is a high stakes examination.

A student will normally take four subjects, although some students (about 25%) take five subjects including *Pengajian Am* (General Studies). These are 23 subjects offered in STPM as follows:

No	Subject	No. of papers
1	*Pengajian Am* (General Studies)	2
2	*Bahasa Melayu* (Malay Language)	2
3	*Bahasa Cina* (Chinese)	2
4	*Bahasa Tamil* (Tamil)	2
5	*Bahasa Arab* (Arabic)	3
6	Literature in English	2
7	*Kesusasteraan Melayu* (Malay Literature)	2
8	*Syariah* (Islamic Law)	2
9	*Usuluddin* (Islamic Theology)	2
10	*Sejarah* (History)	2
11	*Geografi* (Geography)	2
12	*Ekonomi* (Economics)	2
13	*Pengajian Perniagaan* (Business Studies)	2
14	*Perakaunan* (Accounting)	2
15	Mathematics (S)	2
16	Mathematics (T)	2
17	Further Mathematics T	3
18	Computing	4
19	Physics	4
20	Chemistry	4
21	Biology	2
22	*Sains Sukan* (Sports Science)	4
23	*Seni Visual* (Visual Art)	
	Total no. of papers	**56**

Six subjects carry multiple-choice papers, i.e. *Pengajian Am*, *Bahasa Melayu*, *Ekonomi*, Physics, Chemistry, and Biology. *Bahasa Arab* has an oral paper, Computing has a coursework paper (school-based assessment for government schools), *Seni Visual* has a project paper

(centralised assessment), and the science subjects each has a practical paper (school-based assessment for government schools). *Seni Visual* and science subjects each has a fourth paper, i.e. an alternative to project/practical work paper, which is intended for private candidates.

Seven subjects (no. 15 to 21 in the table above) are involved in the Teaching of Mathematics and Science in English programme since 2003. These subjects therefore, have question papers in two languages, i.e. English and Malay. Candidates may write their answers in English or Malay. Government school candidates are exempted from paying examination fees since the year 2007. In order to run the examination, MEC receives financial allocation annually from the Ministry of Education based on the estimated number of candidates.

The STPM examination is administered over a period of 14 days (from Monday to Thursday) with two exam sessions a day (morning and afternoon). The exam is conducted by the state education departments. District supervisors, chief invigilators and assistant invigilators are appointed by State Education Directors. Coordination meetings for marking are held at national level and zone level. Marks are entered by e-submission.

As STPM is an open certification system, candidates will be awarded the STPM certificate if they pass in at least one subject at subsidiary level (partial pass) or above. The change from the one principal qualification is effective from 2011 as decided by the Council.

- **New STPM Assessment System**

In accordance with the Education Transformation Programme beginning from the year 2012, MEC implemented the new STPM assessment system to enhance the form six education programme.

In the new system, the duration of form six studies is similar to the present system, which is one-and-a half years, comprising the lower and upper six form. The allocation of teaching periods remains the same: eight periods per week for each subject (one period = 40 minutes). The subjects offered remain at 23 subjects. The number of papers increased with the inclusion of school-based assessment.

No	Subject	No. of papers
1	*Pengajian Am* (General Studies)	4
2	*Bahasa Melayu* (Malay Language)	5
3	*Bahasa Cina* (Chinese)	3
4	*Bahasa Tamil* (Tamil)	3
5	*Bahasa Arab* (Arabic)	5
6	Literature in English	3
7	*Kesusasteraan Melayu Komunikatif* (Malay Communicative Literature)	4
8	*Syariah* (Islamic Law)	4
9	*Usuluddin* (Islamic Theology)	4
10	*Sejarah* (History)	5
11	*Geografi* (Geography)	4
12	*Ekonomi* (Economics)	4
13	*Pengajian Perniagaan* (Business Studies)	4
14	*Perakaunan* (Accounting)	4
15	Mathematics (M)	4
16	Mathematics (T)	3
17	Further Mathematics T	4
18	Computing	5
19	Physics	5
20	Chemistry	5
21	Biology	5
22	*Sains Sukan* (Sports Science)	4
23	*Seni Visual* (Visual Art)	**95**
	Total no. of papers	

The subject, Malay Literature has been renamed Communicative Malay Literature. Computing is also renamed, Information Communications Technology. These two subjects have incorporated the multimedia element into their syllabus.

The curriculum is divided into three parts based on topic areas. Each part will be taught and studied in either the first, second or third term. Students' assessment will be carried out each term with the results being released at the end of each respective term. The overall STPM results will be based on the best combined results of the three terms.

Soft skills such as communication skills, teamwork, leadership, critical thinking, problem solving, information management and ethics are included in the new curriculum.

There will be two forms of assessment: School-Based Assessment (SBA) with a weighting of 20% to 40%, and the centralised examination with a weighting of 60% to 80%. (The weighting varies according to subjects). The centralized examination, written papers are carried out over a duration of four days, in the mornings and afternoons.

School - Based Assessment (SBA)

The introduction of SBA in this system is in line with the aspiration of the Education Ministry to develop human capital who embrace intellectual, emotional, spiritual, and physical values in line with the National Education Philosophy. SBA is in the form of project work, field study and practical work. In the previous syllabus, SBA was restricted to only a few subjects. SBA aims to enhance critical thinking, creativity, innovation, maturity and self independence.

The coursework question/task is prepared by the Council and will be conducted either over three terms or as determined by the individual subject requirements. Four subjects are exempted from SBA. They are Chinese, Tamil, Literature in English and Further Mathematics. Few candidates take these subjects and the candidates are mainly private candidates. Assessment will be carried out by the subject teacher in government schools and government-aided schools. For private schools, and individual private candidates, the examiner is appointed by the Council. SBA moderation will be conducted by Council-appointed personnel at district, zone or state levels to ensure judgments of standards are comparable, as well as fair, valid and reliable assessment of students' achievements. Mentoring, streamlining and monitoring will also be carried out for quality assurance. The Council also prepares a Teacher's Manual and Student's Manual for each subject as guidance and reference for all personnel and students involved in the conduct of SBA.

Subjects and Papers

Code and Subject		Code and Paper		Weighting (%)	Duration
900	General Studies	900/1	General Studies 1	29	2 hours
		900/2	General Studies 2	22	1½ hours
		900/3	General Studies 3	29	2 hours
		900/4	General Studies 4 (School-based Assessment)	20	2nd term

Code and Subject		Code and Paper		Weighting (%)	Duration
910	Malay Language	910/1	Malay Language 1	35	2 hours
		910/2	Malay Language 2	20	1½ hours
		910/3	Malay Language 3	20	1½ hours
		910/4	Malay Language 4 (School-based Assessment)	8	2nd term
		910/5	Malay Language 5 (School-based Assessment)	17	3rd term
911	Chinese Language	911/1	Chinese Language 1	33.33	2 hours
		911/2	Chinese Language 2	33.33	2 hours
		911/3	Chinese Language 3	33.33	2 hours
912	Tamil Language	912/1	Tamil Language 1	33.33	2 hours
		912/2	Tamil Language 2	33.33	2 hours
		912/3	Tamil Language 3	33.33	2 hours
913	Arabic Language	913/1	Arabic Language 1	28	2 hours

		913/2	Arabic Language 2	28	2 hours
		913/3	Arabic Language 3	20	1½ hours
		913/4	Arabic Language 4 (Oral)	12	15 minutes
		913/5	Bahasa Arab 5 (School-based Assessment)	12	3rd term
920	Literature in English	920/1	Literature in English 1	33.33	2 hours
		920/2	Literature in English 2	33.33	2 hours
		920/3	Literature in English 3	33.33	2 hours

Code and Subject		Code and Paper		Weighting (%)	Duration
930	Syariah	930/1	Syariah 1	26.67	2 hours
		930/2	Syariah 2	26.67	2 hours
		930/3	Syariah 3	26.67	2 hours
		930/4	Syariah 4 (School-based Assessment)	20	2nd term
931	Usuluddin	931/1	Usuluddin 1	26.67	2 hours
		931/2	Usuluddin 2	26.67	2 hours
		931/3	Usuluddin 3	26.67	2 hours
		931/4	Usuluddin 4 (School-based Assessment)	20	3rd term
940	History	940/1	History 1	26.67	2 hours
		940/2	History 2	26.67	1½ hours

		940/3	History 3	26.67	2 hours
		940/4	History 4 (School-based Assessment)	20	2nd term
942	Geography	942/1	Geography 1	32	2 hours
		942/2	Geography 2	32	2 hours
		942/3	Geography 3	16	1 hours
		942/4	Geography 4 (School-based Assessment)	20	3rd term
		942/5	Geografi 5	20	1¼ hours
944	Economics	944/1	Economics 1	32	2 hours
		944/2	Economics 2	32	2 hours
		944/3	Economics 3	16	1 hours
		944/4	Economics 4 (School-based Assessment)	20	3rd term
946	Business Studies	946/1	Business Studies 1	25	1½ hours
		946/2	Business Studies 2	25	1½ hours
		946/3	Business Studies 3	25	1½ hours
		946/4	Business Studies 4 (School-based Assessment)	25	3rd term

Code and Subject		Code and Paper		Weighting (%)	Duration
948	Accounting	948/1	Accounting 1	33.33	2 hours
		948/2	Accounting 2	33.33	2 hours

		948/3	Accounting 3	16.67	1 hour
		948/4	Accounting 4 (School-based Assessment)	16.67	3rd term
		948/5	Accounting 5	16.67	1 hour
950	Mathematics (M)	950/1	Mathematics (M) 1	26.67	1½ hours
		950/2	Mathematics (M) 2	26.67	1½ hours
		950/3	Mathematics (M) 3	26.67	1½ hours
		950/4	Mathematics (M) 4 (School-based Assessment)	20	1st, 2nd, and 3rd term
954	Mathematics (T)	954/1	Mathematics (T) 1	26.67	1½ hours
		954/2	Mathematics (T) 2	26.67	1½ hours
		954/3	Mathematics (T) 3	26.67	1½ hours
		954/4	Mathematics (T) 4 (School-based Assessment)	20	1st, 2nd, and 3rd term
956	Further Mathematics	956/1	Further Mathematics 1	33.33	1½ hours
		956/2	Further Mathematics 2	33.33	1½ hours
		956/3	Further Mathematics 3	33.33	1½ hours
958	Information and Communications Technology	958/1	Information and Communications Technology 1	20	1½ hours
		958/2	Information and Communications	20	1½ hours

			Technology 2		
		958/3	Information and Communications Technology 3	20	1½ hours
		958/4	Information and Communications Technology 4	40	1st, 2nd, and 3rd term

Code and Subject		Code and Paper		Weighting (%)	Duration
960	Physics	960/1	Physics 1	26.67	1½ hours
		960/2	Physics 2	26.67	1½ hours
		960/3	Physics 3	26.67	1½ hours
		960/4	Physics 4 (School-based Assessment)	20	1st, 2nd, and 3rd term
		960/5	Physics 5	20	1½ hours
962	Chemistry	962/1	Chemistry 1	26.67	1½ hours
		962/2	Chemistry 2	26.67	1½ hours
		962/3	Chemistry 3	26.67	1½ hours
		962/4	Chemistry 4 (School-based Assessment)	20	1st, 2nd, and 3rd term
		962/5	Chemistry 5	20	1½ hours
964	Biology	964/1	Biology 1	26.67	1½ hours
		964/2	Biology 2	26.67	1½ hours
		964/3	Biology 3	26.67	1½ hours

		964/4	Biology 4 (School-based Assessment)	20	1st, 2nd, and 3rd term
		964/5	Biology 5	20	1½ hours
966	Sports Science	966/1	Sports Science 1	25	1½ hours
		966/2	Sports Science 2	25	1½ hours
		966/3	Sports Science 3	25	1½ hours
		966/4	Sports Science 4 (School-based Assessment)	25	1st, 2nd, and 3rd term
		966/5	Sports Science 5	25	2 hours
970	Visual Arts	970/1	Visual Art 1	40	2 hours
		970/2	Visual Art 2	35	3 hours
		970/3	Visual Art 3	25	3rd term
		970/4	(School-based Assessment) Visual Art 4	25	3 hours

School Based Assessment

No	Subject	First Term	Second Term	Third Term	Type of Coursework
1	General Studies		✓		Project work
2	Malay Language		✓	✓	Project work
3	Arabic Language			✓	Project work
4	Communicative Malay Literature		✓	✓	Project work
5	Syariah		✓		Project work
6	Usuluddin			✓	Project work

7	History		✓		Project work
8	Geography			✓	Field work
9	Economics			✓	Project work
10	Business Studies			✓	Project work
11	Accounting			✓	Project work
12	Mathematics (M)	✓	✓	✓	Project work
13	Mathematics (T)	✓	✓	✓	Project work
14	Information and Communications Technology	✓	✓	✓	Project work
15	Physics	✓	✓	✓	Practical work
16	Chemistry	✓	✓	✓	Practical work
17	Biology	✓	✓	✓	Practical work
18	Sports Science	✓	✓	✓	Practical work
19	Visual Art			✓	Project work

Examination

A centralised written examination is administered at the end of each term. Question types consist of multiple choice, structured and essay questions. Question papers are prepared and provided by MEC, and the marking of answer scripts will be carried out by MEC-appointed examiners.

Grading

The grading system in the new STPM assessment system is similar to that of the existing STPM system. The score (question paper level) acquired by students for each term will be aggregated to determine the overall subject grade. There is no prerequisite minimum pass grade in each term for students to qualify to continue their studies in the following term.

Paper Grade	Subject Grade	Subject Grade Point (SGP)	Status
A	A	4.00	Full Pass
A-	A-	3.67	Full Pass
B+	B+	3.33	Full Pass
B	B	3.00	Full Pass
B-	B-	2.67	Full Pass
C+	C+	2.33	Full Pass
C	C	2.00	Full Pass
C-	C-	1.67	Partial Pass
D+	D+	1.33	Partial Pass
D	D	1.00	Partial Pass
F	F	0.00	Fail

Advantages

With School Based Assessment, teaching and learning are integrated with assessment. SBA humanises assessment making schooling a cooperative enterprise between teachers and students.

Through the new examination system, students will also have more opportunities to obtain better results. Students are allowed to improve on their first term and second term results by retaking these term examinations at the end of the third term. Students who do not obtain satisfactory results for the third term may also re-sit.

Standards and Recognition

Standards and recognition will be maintained. A representative from Cambridge Assessment (CA), United Kingdom attends the Standards Setting

Committee meeting to endorse the results. The CA representative gives his opinion on the analysis of the STPM examination results for each paper, and a collective decision is made on the standards.

Vision

The implementation of this system is expected to strengthen and enhance pre-university studies in order to attract more students to take up the programme. It is also a positive step to improve the achievements of students, expanding their potential and providing more accurate information on student achievement than the impersonal pencil and paper test.

This new system is also consistent with the Ministry's vision to strengthen and make the assessment and evaluation system more holistic, with emphasis on outcome-based education, that focuses more on students, and is less exam-oriented. Students will acquire knowledge, skills and values which will prepare them for tertiary studies, the workplace and the needs of the 21st century.

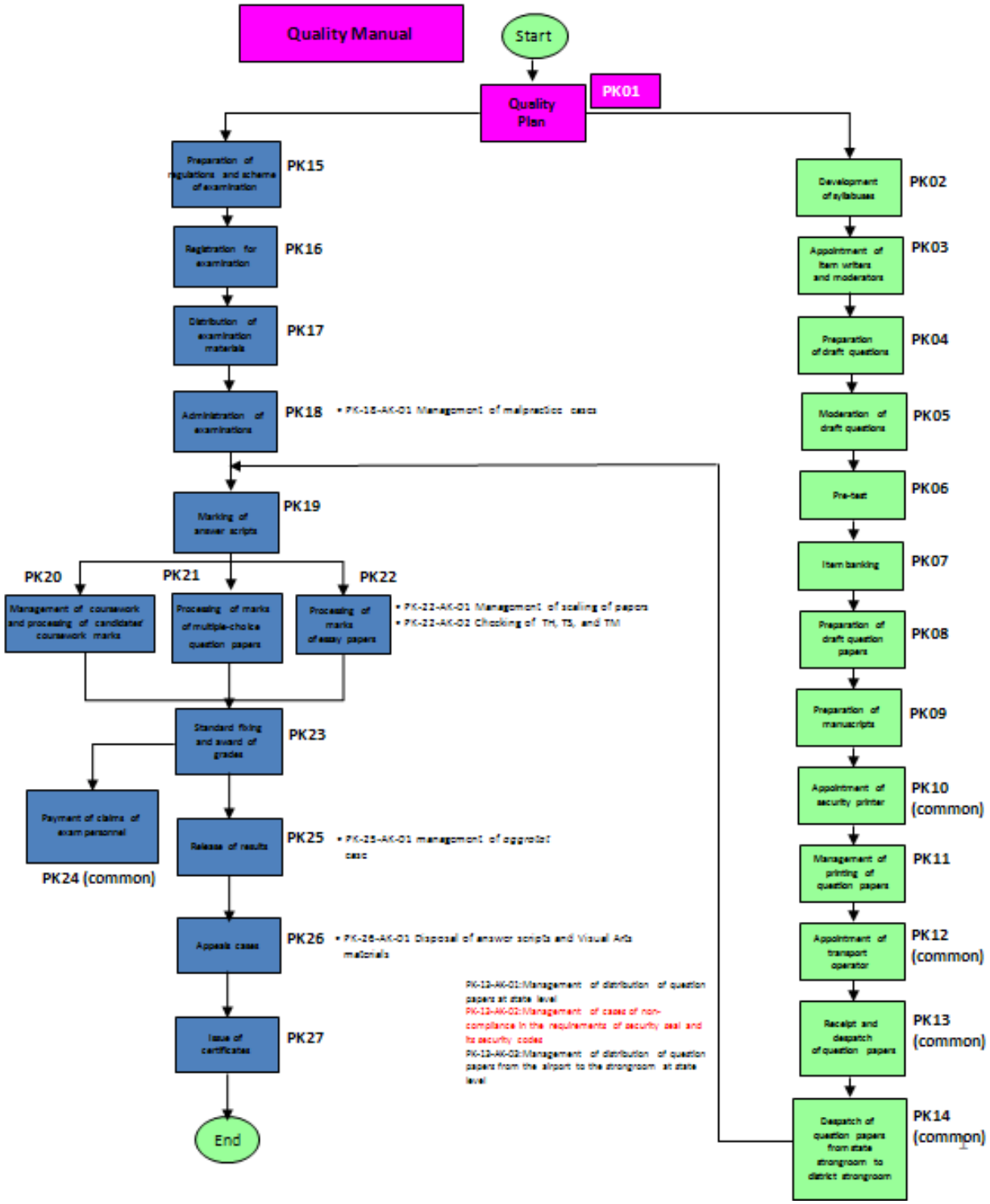
Number of STPM Candidates

Year	Total number of candidates
2005	81,142
2006	73,698
2007	66,048
2008	53,638
2009	55,635
2010	53,671
2011	53,685
2012	54,645
2013 T1	62,306
2013 T2	62,503
2013 T3	62,928

Examination Standards

MEC is committed to developing and implementing a quality management system based on International Standards ISO 9001:2008. It is also committed to comply with the requirements of the system and the requirements and processes are communicated and understood by all the staff of MEC to ensure that the quality and work carried out are in accordance with standards set. The quality procedures (27 detailed documents) which explain the what, who, where, why and how to implement the activities of MEC's quality management system, guide new staff and MEC's personnel on their duties and the standard operating procedures serve to ensure that examination standards related to the design and development of the STPM examination and MUET are maintained and continually in line with the objectives of MEC. Internal audit and audit by Sirim Qas International Co. Ltd enhance the effectiveness of the system. The mapping and list of the STPM quality procedures is as follows:

MAPPING OF QUALITY PROCEDURE ISO 9001:2000 STPM



The Quality Manual contains information on the MEC, the quality policy, quality objectives and the basic principles of MEC's Quality Management System.

Quality Procedure 1

This procedure prepares the quality plan for the production, printing and distribution of question papers, administration of examination, marking of answer scripts, processing of marks and results and issue of STPM results.

Quality Procedure 2

This procedure is for the syllabus design of new subjects. The syllabus designed must be of pre university standard as determined by experts from universities and sixth form teachers. The syllabuses must be approved by the Minister of Education.

Quality Procedure 3

This procedure lists steps related to the appointment of item writers and moderators and instructions to item writers that the items must be in line with syllabus requirements, of pre-university level, fair and free from bias.

Quality Procedure 4

This procedure lists steps to take after draft questions are received from item writers and the review and preparation of draft questions and mark schemes for moderation meetings.

Quality Procedure 5

This procedure is steps to take at the item moderation meeting.

Quality Procedure 6

This procedure lists activities related to the administration of pilot testing, like the selection of sample, preparation of pilot testing materials and item analysis.

Quality Procedure 7

This procedure lists action to be taken for item banking including creation of the item bank and filing of items.

Quality Procedure 8

This is the procedure for the preparation of draft question papers, like the selection of items, assembly of the draft question papers and the vetting process. Question papers must be reliable and valid, abide by syllabus requirements, error free and fair.

Quality Procedure 9

This procedure is a guide to the preparation of manuscripts of question papers which should be free from factual, conceptual and typography errors.

Quality Procedure 10

This procedure guides one on the steps to take for the appointment of security printer to print question papers.

Quality Procedure 11

This procedure is for the management of printing of question papers.

Quality Procedure 12

This procedure is for managing the appointment of transport operator.

Quality Procedure 13

This procedure involves the receipt of question paper consignments from the printer and the despatch of question paper consignments to state strong rooms.

Quality Procedure 14

This procedure spells out the steps related to the receipt and despatch of question papers to district strong rooms and its related activities.

Quality Procedure 15

This procedure lists out action to be taken in the preparation of ***The Regulations and Scheme of Examination***, from the preparation of its manuscript to its printing and distribution to State Education Departments.

Quality Procedure 16

This procedure is related to registration for examination by candidates.

Quality Procedure 17

This procedure lists steps related to the distribution of examination materials to State Education Departments.

Quality Procedure 18

This procedure relates to the administration of examinations, the appointment of invigilators and briefings on administration of examinations at examination centres.

Quality Procedure 19

This procedure relates to guidelines on the marking of answer scripts, which involve the appointment of examiners and administration of coordination meetings, that marking should be carried out meticulously and fairly, guided by mark schemes. Reports must be submitted by Chief Examiners on candidates' performance.

Quality Procedure 20

This procedure lists steps related to the management of coursework marks.

Quality Procedure 21

This procedure spells out the steps related to the processing of multiple choice question papers.

Quality Procedure 22

This procedure is used for processing marks of essay papers. Marks scored and analysis of statistics should be error free.

Quality Procedure 23

This procedure relates to standard fixing and the award of grades.

Quality Procedure 24

This procedure is used for the processing of claims of examination personnel.

Quality Procedure 25

This procedure applies to the release of results like the analysis of results, the packing of results slips and the despatch of results to State Education Departments and private individual candidates.

Quality Procedure 26

This procedure is steps taken process candidates' appeals against results, like the remarking of answer scripts and the issue of results of appeals.

Quality Procedure 27

This procedure spells out the process of issue of certificates, the despatch of certificates to State Education Departments, the return of unclaimed certificates to MEC and the application for statement of results.

Certification

To ensure its services offered on examinations are of quality, MEC obtained the Malaysian Civil Service MS ISO 9001:1994 Quality System Registration Certificate on 31 December 2000 and the MS ISO 9001:2000 Quality System Registration Certificate for the STPM examination on 3 March 2005 from SIRIM QAS International Co. Ltd. The scope of registration of this quality system is the management and administration of the STPM Examination which encompasses the design, printing and distribution of question papers.

The scope of registration was later expanded to implement a more comprehensive quality management system in MEC. MEC prepared two separate quality procedures for the

STPM examination and MUET. The expanded scope covered examination syllabuses design, the construction, printing and distribution of question papers, the preparation of Regulations and Examination Schemes, registration of candidates, supply of examination material, administration of examination, marking of answer scripts, processing of marks, setting of standards, release of results and the issue of certificates. The expanded quality management system for the STPM examination and MUET was implemented on 11 September 2007. MEC received the ISO 9001:2000 Quality Management System Registration Certificate for the enhanced scope of the STPM examination (certificate number AR3576) on 16 December 2008 and the ISO 9001:2008 Quality Management System Registration Certificate for MUET (certificate number AR4761) from SIRIM QAS International Co. Ltd. and the International Certification Network (IQNet) on 9 October 2009.

In 2011, MEC combined the STPM ISO Quality Management System and MUET ISO Quality Management System. MEC received the ISO 9001:2008 Quality Management System Registration certificate for the administration of both STPM and MUET from SIRIM QAS International Co. Ltd. and the International Certification Network (IQNet) (certificate number AR4761) on 1 August 2011 and this certificate is valid until 31 July 2014.

In 2012 and 2013 SIRIM QAS International Co. Ltd. conducted Quality Management System surveillance audit for the administration of STPM and MUET.

SIRIM QAS INTERNATIONAL

CERTIFICATE

QUALITY SYSTEM
SIRIM

SIRIM QAS International hereby certifies that

MAJLIS PEPERIKSAAN MALAYSIA
BANGUNAN MPM, PERSIARAN 1
BANDAR BARU SELAYANG
68100 BATU CAVES
SELANGOR DARUL EHSAN
MALAYSIA

STANDARDS

has implemented a Quality Management System complying with

ISO 9001 : 2008
Quality Management Systems - Requirements

UKAS
074

Scope of Certification

1) **DESIGN AND DEVELOPMENT OF CURRICULUMS OF SIJIL TINGGI PERSEKOLAHAN MALAYSIA (STPM) AND MALAYSIAN UNIVERSITY ENGLISH TEST (MUET);**
2) **MANAGEMENT OF SIJIL TINGGI PERSEKOLAHAN MALAYSIA (STPM) AND MALAYSIAN UNIVERSITY ENGLISH TEST (MUET) EXAMINATIONS.**

IQNet

Issue date	: **01 August 2011**
Validity period	: **01 August 2011 - 31 July 2014**
Certification No.	: **AR 4761**

SIRIM QAS International Sdn. Bhd.
Company No. 410334-H
1, Persiaran Dato' Menteri
Section 2, P. O. Box 7035
40911 Shah Alam
Selangor Darul Ehsan
MALAYSIA

Tel : 60-3-5544 6404
Fax : 60-3-5544 6787

http://www.sirim-qas.com.my
http://www.malaysiancertified.com.my

Khalidah Mustafa
Managing Director
SIRIM QAS International Sdn. Bhd.

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and SIRIM QAS International hereby certify that

MAJLIS PEPERIKSAAN MALAYSIA

BANGUNAN MPM, PERSIARAN 1
BANDAR BARU SELAYANG
68100 BATU CAVES
SELANGOR DARUL EHSAN
MALAYSIA

has implemented and maintains a

QUALITY MANAGEMENT SYSTEM

which fulfils the requirements of the following standard

ISO 9001 : 2008

for the following activities

1) DESIGN AND DEVELOPMENT OF CURRICULUMS OF SIJIL TINGGI PERSEKOLAHAN MALAYSIA (STPM) AND MALAYSIAN UNIVERSITY ENGLISH TEST (MUET);
2) MANAGEMENT OF SIJIL TINGGI PERSEKOLAHAN MALAYSIA (STPM) AND MALAYSIAN UNIVERSITY ENGLISH TEST (MUET) EXAMINATIONS.

Issued on	: **01 August 2011**
Validity date	: **31 July 2014**
Certification Number	: **MY-AR 4761**

Michael Drechsel
President of IQNet

Khalidah Mustafa
Managing Director
SIRIM QAS International Sdn Bhd

IQNet Partners*:
AENOR *Spain* AFNOR Certification *France* AIB-Vincotte International *Belgium* ANCE *Mexico* APCER *Portugal* CCC *Cyprus* CISQ *Italy* CQC *China* CQM *China* CQS *Czech Republic* Cro Cert *Croatia* DQS Holding GmbH *Germany* DS *Denmark* ELOT *Greece* FCAV *Brazil* FONDONORMA *Venezuela* HKQAA *Hong Kong China* ICONTEC *Colombia* IMNC *Mexico* Inspecta Certification *Finland* IRAM *Argentina* JQA *Japan* KFQ *Korea* MSZT *Hungary* Nemko AS *Norway* NSAI *Ireland* PCBC *Poland* Quality Austria *Austria* RR *Russia* SII *Israel* SIQ *Slovenia* SIRIM QAS International *Malaysia* SQS *Switzerland* SRAC *Romania* TEST St Petersburg *Russia* TSE *Turkey* YUQS *Serbia*
IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

Testing Procedure

a. Item Writers

Item writers are qualified personnel appointed to prepare drafts of questions and the mark schemes/key based on the syllabus . Item writers appointed by MEC may be lecturers from local institutions of higher learning or teachers in the sixth form. Item writers must meet the requirements below:

(i) Possess academic qualifications and expertise in the related fields which they prepare items on

(ii) Have teaching experience in the subject concerned

(iii) Have experience marking papers at STPM level

(iv) Show good track record of being good item writers

(v) Able to complete task within the time frame given

(vi) Cooperative and dedicated

(vii) Observe confidentiality of task and related materials

(viii) Show attention to details

The procedure for appointment of item writers is spelt out in MEC's STPM Quality Procedure 3 of the MS ISO 9001:2008.

Names of nominees for item writers are obtained from the list of examiners, recommendations from chief examiners or other item writers, recommendations from deans/head of departments of universities or heads of schools as well as, the list of names and expertise of university lecturers and school teachers.

The subject officer shortlists a list of new or experienced item writers based on the criteria above and prepares a nomination list as in the form, STPM/B13 and submits the form to the head of department, Deputy Chief Executive 1 and the Chief Executive. The list of recommended item writers are vetted to ensure they meet the criteria set. If the nominated item writers are approved, the subject officer subsequently appoints the item writers . If any of the item writers do not meet any criteria listed, the subject officer is required to renominate another item writer as replacement.

Lampiran 3

STPM/B13

SULIT

Nombor Rujukan:

PENCALONAN PENGGUBAL

Kod kertas: ..... Nama kertas: .....

Bil.	Nama	Alamat	Nombor telefon

Disediakan oleh:

Tarikh: ....
( )
Penolong Setiausaha (.....)

Dicadangkan oleh:

Tarikh: ....
( )
Setiausaha Bahagian (.....)

Disokong oleh:

Tarikh: ....
( )
Timbalan Ketua Eksekutif 1

DILULUSKAN/TIDAK DILULUSKAN

Tarikh: ....
( )
Ketua Eksekutif
Majlis Peperiksaan Malaysia

* Potong yang tidak berkenaan

Next, the subject officer prepares the appointment letters as in format STPM/B15, to the approved item writers and submits the letters to be endorsed by the Chief Executive. The appointment letters list out the paper to be set and that if the item writers accept the appointment they must abide by the listed requirements:

(i) That the appointment is CONFIDENTIAL

(ii) That item writers are barred from giving briefings, seminars, workshops or courses on STPM papers

(iii) That item writers must complete the task assigned within 6 weeks from the date the task is given

(iv) That the items are written or typed by the item writers themselves without the aid of others. When submitting the question drafts/mark schemes, item writers must make a declaration that they did not keep any copies of the question drafts/key/mark scheme in whatever form.

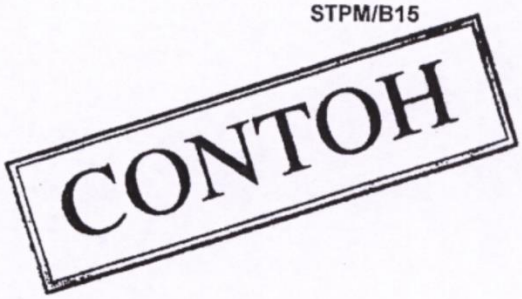
(v) That the question drafts submitted to MEC are written by the item writers and not lifted from sources like textbooks, revision books or question papers from other examination bodies.

The subject officer, subsequently sends the appointment letters, reply forms which require item writers to reply if they accept the appointment and if they do, to fill in their personal particulars like names, qualifications, field of expertise, salary scale and contact details (STPM/B19) and stamped CONFIDENTIAL MEC return envelopes (for the item writers to submit the items written as they are not allowed to send any items via email or shared networks).

Lampiran 5

STPM/B15

SULIT



Rujukan kami :

Tarikh :

Melalui

Tuan/Puan

Peperiksaan Sijil Tinggi Persekolahan Malaysia (STPM)
Pelantikan Penggubal Soalan

Dengan hormatnya dimaklumkan bahawa Majlis Peperiksaan Malaysia bercadang melantik tuan/puan sebagai penggubal soalan peperiksaan STPM bagi kertas yang dinyatakan di bawah ini.

Kod kertas	**Nama kertas**

2. Tuan/puan akan dipertanggungjawabkan untuk menyediakan

   (i) draf kertas soalan,

   (ii) *draf kunci jawapan/draf skema pemarkahan.

3. Sekiranya tuan/puan bersetuju menerima pelantikan ini, sila maklumi perkara yang berikut.

   (i) Pelantikan ini adalah **SULIT** dan tidak sekali-kali boleh dibocorkan.

   (ii) Tuan/puan tidak dibenarkan memberikan taklimat, ceramah, atau membentangkan kertas kerja yang berkaitan dengan kertas STPM dalam mana-mana seminar, bengkel, atau kursus.

   (iii) Untuk segala tugas yang tuan/puan laksanakan, tuan/puan akan menerima bayaran mengikut kadar yang ditetapkan oleh Majlis Peperiksaan Malaysia.

   (iv) Tuan/puan hendaklah melaksanakan tugas tersebut dalam masa lebih kurang ..... minggu dari tarikh tuan/puan menerima arahan dan panduan tugas dari Majlis Peperiksaan Malaysia.

   (v) Draf soalan dan *draf kunci jawapan/draf skema pemarkahan hendaklah tuan/puan tulis atau taip sendiri tanpa bantuan orang lain. Apabila menyerahkan draf soalan dan *draf kunci jawapan/draf skema pemarkahan, tuan/puan dikehendaki membuat pengakuan bahawa tuan/puan tiada menyimpan sebarang salinan draf soalan atau *kunci jawapan/skema pemarkahan tersebut dalam bentuk apa pun.

Tuan/puan diingatkan bahawa draf soalan yang dikemukakan kepada Majlis Peperiksaan Malaysia hendaklah tuan/puan gubal sendiri. Tuan/puan tidak dibenarkan sama sekali menciplak draf soalan daripada mana-mana buku teks, buku ulang kaji, buku lain yang seumpamanya, atau kertas soalan mana-mana badan peperiksaan.

Diharapkan agar tuan/puan dapat memberikan jawapan sama ada tuan/puan sanggup atau tidak sanggup menerima pelantikan ini dengan melengkapkan borang **STPM/B19** yang dilampirkan. Sila kembalikan borang tersebut dengan segera dengan menggunakan sampul beralamat MPM yang bertanda **SULIT** yang dimasukkan ke dalam sampul beralamat MPM.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Yang ikhlas

Ketua Eksekutif
Majlis Peperiksaan Malaysia

Lampiran: (i) Borang **STPM/B19**
(ii) Sampul beralamat MPM yang bertanda **SULIT**
(iii) Sampul beralamat MPM

* Potong yang tidak berkenaan

Lampiran 9

STPM/B19

SULIT

Ketua Eksekutif
Majlis Peperiksaan Malaysia
Bangunan MPM
Persiaran 1, Bandar Baru Selayang
68100 BATU CAVES
Selangor Darul Ehsan

(u.p. Setiausaha Bahagian Sains dan Matematik)

Tuan/Puan

Peperiksaan Sijil Tinggi Persekolahan Malaysia (STPM)
Pelantikan Penggubal Soalan

1 Penerimaan pelantikan

Saya *sanggup/tidak sanggup menjadi penggubal soalan bagi kertas:

Kod kertas **Nama kertas**

2 Maklumat peribadi (jika pelantikan diterima)

Nama penuh (Huruf besar): .....

Nombor kad pengenalan: ..... Warganegara: .....

Kelulusan: ..... Bidang pengkhususan: .....

Jawatan: .....

Gred Gaji: ..... Gaji pokok: ..... Elaun: .....

Nombor fail cukai pendapatan: .....

Alamat pejabat: Alamat rumah:

....

....

....

....

Nombor telefon: Pejabat: ..... Rumah: .....

Nombor telefon bimbit: .....

Alamat emel: Pejabat: ..... Rumah: .....

3 Tandatangan: ..... **Tarikh:** .....

Nama : .....

* Potong yang tidak berkenaan.

Once the appointments are accepted , the subject officers will send the letter, STPM/B23 to hand over the task to the item writers with the documents below:

(i) Two Official Secrets Act forms MPM/P13.1, MPM/P13.2 (to be signed as oaths to abide by the confidentiality of the task)
(ii) Form for acceptance of task, STPM/B24
(iii) Form for submission of task, STPM/B25
(iv) Test specifications
(v) Subject syllabus
(vi) Guide to writing test items
(vii) Past year questions for 3 years
(viii) Claim forms
(ix) 2 stamped CONFIDENTIAL MEC return envelopes
(x) 2 other MEC addressed envelopes

Item writers are assessed on their performance in a form STPM/B49, where the subject officer notes the code of the item writer, the number of items the item builder has been instructed to set, the number of items submitted, the number of items accepted by the moderation panel, the duration of item building, the adherence to security procedures and finally whether the item writer can be appointed again based on the factors mentioned.

Lampiran 13

STPM/B23

SULIT

Rujukan kami :

Rujukan tuan :

Tarikh :

Tuan/Puan

Peperiksaan Sijil Tinggi Persekolahan Malaysia (STPM)
Serahan Tugas Penggubalan Soalan

Merujuk kepada surat kami yang bertarikh Majlis Peperiksaan Malaysia mengucapkan terima kasih atas kesudian tuan/puan menjadi penggubal soalan peperiksaan STPM bagi kertas yang dinyatakan di bawah ini.

Kod kertas	**Nama kertas**

2. Sila tuan/puan tandatangani helaian **MPM/P13.1** dan **MPM/P13.2**, dan isi borang **STPM/B24** yang dilampirkan, dan kembalikan kesemuanya ke Majlis Peperiksaan Malaysia dengan segera. Sila gunakan sampul yang bertanda **SULIT** dan masukkan ke dalam sampul beralamat MPM.

3. Tuan/puan dipertanggungjawabkan untuk menyediakan

(i) *draf soalan seperti yang ditentukan dalam Jadual Spesifikasi Ujian yang dilampirkan,

(ii) *draf kunci jawapan/draf skema pemarkahan.

Diharapkan agar tuan/puan dapat menghantar draf soalan dan *kunci jawapan/skema pemarkahan tersebut bersama dengan borang **STPM/B25** dan borang tuntutan bayaran yang telah berisi ke Majlis Peperiksaan Malaysia tidak lewat daripada ..... Sila gunakan sampul beralamat MPM yang bertanda **SULIT** dan masukkan ke dalam sampul beralamat MPM.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Yang menurut perintah

(.....)

b.p. Ketua Eksekutif
Majlis Peperiksaan Malaysia

Lampiran:
(i) Helaian **MPM/P13.1**
(ii) Helaian **MPM/P13.2**
(iii) Borang **STPM/B24**
(iv) Borang **STPM/B25**
(v) Jadual Spesifikasi Ujian
(vi) Sukatan pelajaran
(vii) Panduan Penggubalan Soalan
(viii) Kertas soalan peperiksaan STPM bagi tiga tahun yang terakhir
(ix) Borang tuntutan MPM/AM.4/(Pind.06)
(x) Dua sampul beralamat MPM yang bertanda **SULIT**
(xi) Dua sampul beralamat MPM

*Potong yang tidak berkenaan

Lampiran 14

STPM/B31

SULIT

REKOD PENGGUBALAN SOALAN

Kod kertas : .....

Tahun : .....

Bil.	Kod penggubal	Tarikh pelantikan penggubal	Tarikh hantar arahan tugas kepada penggubal	Tarikh dan bilangan draf soalan yang diterima	Tarikh dan bilangan draf soalan yang dihantar balik	Tarikh dan bilangan draf soalan yang diterima setelah diperbaiki/ digubal semula	Bilangan draf soalan yang didapati sesuai oleh Penaksir/ Panel Penaksir	Tarikh tuntutan penggubal diserahkan kepada Bahagian Kewangan	Catatan

* Potong yang tidak berkenaan.

OFFICIAL SECRETS ACT FORM

Lampiran 15

MPM/P13.1

PERAKUAN UNTUK DITANDATANGANI OLEH PENJAWAT MAJLIS PEPERIKSAAN MALAYSIA BERKENAAN DENGAN AKTA 225 AKTA MAJLIS PEPERIKSAAN MALAYSIA 1980 SEPERTI YANG DIPINDA HINGGA 1985 (AKTA A617)

Adalah saya dengan ini mengaku bahawa perhatian saya telah ditarik kepada peruntukan-peruntukan Akta 225 Akta Majlis Peperiksaan Malaysia 1980 seperti yang dipinda hingga 1985 Akta A617, dan bahawa saya faham dengan sepenuhnya segala yang dimaksudkan dalam Akta tersebut. Khususnya saya faham bahawa memiliki, menyampaikan, menjaga atau mengawal, menggunakan atau menyimpan dengan salah sesuatu benda rahsia/sulit, tidak menjaga dengan cara yang berpatutan sesuatu benda rahsia/sulit, atau apa-apa tingkah laku yang membahayakan keselamatan sesuatu benda rahsia/sulit, adalah menjadi suatu kesalahan di bawah Seksyen 12 (Akta 225) dan/atau Seksyen 25 (Akta 225) dan/atau Seksyen 28 (Akta 225 Akta Majlis Peperiksaan Malaysia 1980 seperti yang dipinda sehingga 1985 Akta A617) yang boleh, apabila disabitkan, dikenakan denda tidak lebih daripada lima ribu ringgit atau penjara selama tempoh tidak lebih daripada satu tahun atau kedua-duanya di bawah Seksyen 12 (Akta 225), dan/atau dikenakan denda tidak lebih daripada sepuluh ribu ringgit atau penjara selama tidak lebih daripada dua tahun atau kedua-duanya di bawah Seksyen 25 (Akta 225), dan/atau dikenakan denda tidak lebih daripada sepuluh ribu ringgit atau penjara selama tempoh tidak lebih daripada tiga tahun atau kedua-duanya di bawah Seksyen 28 (Akta 225 Akta Majlis Peperiksaan Malaysia 1980) seperti yang dipinda sehingga 1985 Akta A617).

Saya faham bahawa segala maklumat rasmi/sulit yang saya peroleh dalam perkhidmatan Majlis Peperiksaan Malaysia adalah milik Majlis Peperiksaan Malaysia dan tidak boleh dibocorkan, disiarkan, atau disampaikan, sama ada secara lisan atau secara bertulis, kepada sesiapa jua dalam apa-apa bentuk kecuali pada masa menjalankan kewajipan rasmi/sulit saya, sama ada dalam masa atau selepas perkhidmatan saya dengan Majlis Peperiksaan Malaysia dengan tidak terlebih dahulu mendapat kebenaran bertulis daripada Setiausaha Agung Majlis Peperiksaan Malaysia.

Tandatangan: .....

Nama dengan huruf cerai: .....

Nombor kad pengenalan: ..... Jawatan: .....

Tempat: ..... Tarikh: .....

Lampiran 15
(sambungan)

AKTA 225 AKTA MAJLIS PEPERIKSAAN MALAYSIA 1980
SEPERTI YANG DIPINDA SEHINGGA 1985 AKTA A617

12. (1) Majlis boleh melantik orang-orang yang mempunyai kelayakan yang sesuai, sama ada yang tinggal dalam Malaysia atau di luar Malaysia, untuk menyediakan, menilai, atau memeriksa soalan atau jawapan bagi sesuatu peperiksaan tertentu.

(2) Mana-mana orang yang dilantik di bawah seksyen-kecil (1) yang, tanpa kebenaran Majlis, mewakilkan tugasnya untuk menyediakan, menilai, atau memeriksa soalan atau jawapan peperiksaan kepada seseorang yang takberkuasa adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, dikenakan denda tidak lebih daripada lima ribu ringgit atau penjara selama tempoh tidak lebih daripada satu tahun atau kedua-duanya.

(3) Majlis berhak untuk menahan kesemuanya atau sebahagian daripada apa-apa jua elaun atau fee yang kena dibayar kepada mana-mana orang yang dilantik di bawah seksyen-kecil (1) jika sekiranya Majlis dapati kerjanya itu tidak memuaskan.

25. (1) Kecuali sebagaimana yang perlu untuk menjalankan atau melaksanakan apa-apa tugas atau fungsi di bawah Akta ini atau untuk menguatkuasakan peruntukan-peruntukan dan maksud-maksud Akta ini, tiap-tiap orang yang dilantik di bawah Akta ini, atau yang sedang atau telah diambil kerja untuk menjalankan atau membantu mana-mana orang untuk menjalankan peruntukan-peruntukan dan maksud-maksud Akta ini:

(a) hendaklah menyimpan dan membantu menyimpan rahsia berkenaan dengan semua perkara yang sampai kepada pengetahuannya semasa menjalankan atau melaksanakan apa-apa tugas atau fungsi yang ada kaitan dengan pelantikan atau pekerjaannya;

(b) tidak boleh memberitahu apa-apa perkara sedemikian itu kepada mana-mana orang;

(c) tidak boleh membiar atau membenarkan mana-mana orang mendapat akses kepada apa-apa rekod yang ada dalam milik, jagaan, atau kawalan mana-mana orang yang baginya seksyen-kecil ini dipakai.

(3) Mana-mana orang yang melanggar mana-mana peruntukan seksyen-kecil (1) adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, dikenakan denda tidak lebih daripada sepuluh ribu ringgit atau penjara selama tempoh tidak lebih daripada dua tahun atau kedua-duanya.

28. (1) Mana-mana orang yang ditugas menyediakan, menyederhanakan, menyemak, menapis atau mencetak, atau mengumpul, menyimpan, membahagi-bahagikan, atau menjaga apa-apa kertas soalan atau arahan sulit bagi sesuatu peperiksaan tertentu, atau membuat draf, salinan atau rekod kertas soalan atau arahan itu, atau ditugaskan sebagai seorang penyelia, pengawas peperiksaan, pembantu, atau atas apa-apa sifat lain bagi sesuatu peperiksaan tertentu yang, sebelum atau semasa berlangsungnya peperiksaan bagi mata pelajaran yang berkaitan dengan kertas atau arahan itu, dengan diketahui atau tak berhematnya, dan tanpa diberi kuasa dengan sah untuk berbuat demikian, menzahirkan kandungan kertas atau arahan itu, atau kandungan mana-mana draf, salinan atau rekodnya kepada mana-mana orang, sama ada seorang calon bagi peperiksaan tersebut ataupun tidak, adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, dikenakan denda tidak lebih daripada sepuluh ribu ringgit atau penjara selama tempoh tidak lebih dua tahun atau kedua-duanya (A617).

(2) Mana-mana orang, sama ada seorang calon bagi sesuatu peperiksaan tertentu ataupun tidak, yang sebelum atau semasa berlangsungnya peperiksaan bagi mata pelajaran yang berkaitan dengan sesuatu kertas soalan atau arahan sulit bagi sesuatu peperiksaan tertentu, dengan diketahuinya menggunakan kandungan kertas atau arahan-arahan atau kandungan apa-apa draf , salinan atau rekodnya dengan apa-apa cara jua pun dan tanpa diberi kuasa dengan sah untuk berbuat demikian, adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, dikenakan denda tidak lebih daripada sepuluh ribu ringgit atau penjara selama tempoh tidak lebih daripada dua tahun atau kedua-duanya (A617).

(3) Mana-mana orang yang sebelum atau semasa berlangsungnya peperiksaan bagi mata pelajaran yang berkaitan dengan sesuatu kertas atau arahan sulit bagi sesuatu peperiksaan tertentu didapati memiliki, menjaga, atau mengawal kertas soalan atau arahan-arahan atau sebahagian darinya atau mana-mana draf, salinan, atau rekodnya tanpa diberi kuasa dengan sah untuk berbuat demikian adalah melakukan suatu kesalahan dan boleh, apabila disabitkan, dikenakan denda tidak melebihi sepuluh ribu ringgit atau penjara selama tempoh tidak melebihi tiga tahun atau kedua-duanya (A617).

Lampiran 16
MPM/P13.2

KP (PP) Sulit 0073/3 ( ) Pin.1/88

PERAKUAN UNTUK DITANDATANGANI OLEH PENJAWAT AWAM BERKENAAN DENGAN AKTA RAHSIA RASMI 1972

Adalah saya dengan ini mengaku bahawa saya telah ditarik kepada peruntukan-peruntukan Akta Rahsia Rasmi 1972 dan bahawa saya faham dengan sepenuhnya akan segala yang dimaksudkan dalam Akta itu. Khususnya saya faham bahawa menyampaikan, menggunakan atau menyimpan dengan salah, sesuatu benda rahsia, tidak menjaga dengan cara yang berpatutan sesuatu rahsia atau apa-apa tingkahlaku yang membahayakan keselamatan atau rahsia sesuatu benda rahsia adalah menjadi suatu kesalahan di bawah Akta tersebut, yang boleh dihukum maksimum penjara seumur hidup.

Saya faham bahawa segala maklumat rasmi yang saya perolehi dalam perkhidmatan Seri Paduka Baginda Yang Di-Pertuan Agong atau perkhidmatan mana-mana Kerajaan dalam Malaysia, adalah milik Kerajaan dan tidak akan membocorkan, menyiarkan, atau menyampaikan, sama ada secara lisan atau dengan bertulis, kepada sesiapa jua dalam apa-apa bentuk, kecuali pada masa menjalankan kewajipan-kewajipan rasmi saya, sama ada dalam masa atau selepas perkhidmatan saya dengan Seri Paduka Baginda Yang Di-Pertuan Agong atau mana-mana Kerajaan dalam Malaysia dengan tidak terlebih dahulu mendapat kebenaran bertulis pihak berkuasa yang berkenaan. Saya berjanji dan mengaku akan menandatangani suatu akuan selanjutnya bagi maksud ini apabila meninggalkan Perkhidmatan Kerajaan.

Tandatangan .....

Nama dengan huruf besar .....

No.kad pengenalan .....

Jawatan .....

Jabatan .....

Tarikh .....

Disaksikan oleh .....
(Tandatangan)

Nama dengan huruf besar .....

No. kad pengenalan .....

Jawatan .....

Jabatan .....

Tarikh .....

Cop Jabatan .....

Lampiran 16
(sambungan)

AKTA 88

8. (1) Jika seseorang yang ada dalam miliknya atau kawalannya sesuatu perkataan kod, isyarat timbal atau katajodoh rasmi yang rahsia atau sesuatu benda, suratan, atau maklumat yang –

(a) berhubung dengan atau digunakan di sesuatu tempat larangan atau berhubung dengan apa-apa jua di sesuatu tempat itu; atau

(b) berhubung dengan kelengkapan perang; atau

(c) telah dibuat atau didapatkan bersalahan dengan Akta ini; atau

(d) telah diamanahkan sebagai rahsia kepadanya oleh seseorang pegawai awam; atau

(e) telah dibuat atau didapatkan atau dilihat olehnya, oleh kerana kedudukannya sebagai seorang yang memegang atau telah memegang jawatan dalam perkhidmatan awam, atau sebagai seorang yang memegang atau telah memegang suatu kontrak yang dibuat bagi pihak Kerajaan, atau sebagai seorang yang bekerja atau telah bekerja dengan atau dibawah seseorang yang memegang atau telah memegang jawatan atau kontrak itu.

Melakukan mana-mana daripada yang berikut-

(i) menyampaikan secara langsung atau secara taklangsung sesuatu maklumat atau benda tersebut kepada sesuatu negeri asing yang lain daripada negeri asing yang kepadanya ia diberikuasa dengan sempurna bagi menyampaikannya atau kepada seseorang yang lain daripada orang yang kepadanya is diberikuasa dengan sempurna bagi menyampaikannya atau yang kepadanya ia adalah berkewajipan bagi menyampaikannya; atau

(ii) menggunakan sesuatu maklumat atau benda seperti tersebut di atas untuk faedah sesuatu negeri asing yang lain daripada negeri asing yang bagi faedahnya ia diberkuasa dengan sempurna bagi menggunakannya atau dengan apa-apa cara lain yang mudarat kepada keselamatan atau kepentingan Malaysia; atau

(iii) menyimpan dalam bilik atau kawalannya mana-mana benda seperti tersebut di atas manakala ia tidak berhak menyimpannya, atau manakala berlawanan dengan kewajipannya bagi menyimpannya, atau tidak mematuhi segala arahan yang sah yang dikeluarkan oleh pihak berkuasa yang sah berkenaan dengan pemulangan atau pelupusan benda itu; atau

(iv) tidak menjaga dengan cara yang berpatutan, atau bertingkah-laku sehingga membahayakan keselamatan atau rahsia, sesuatu maklumat atau benda seperti tersebut di atas,

Maka orang itu adalah melakukan suatu kesalahan yang boleh dihukum dengan penjara tidak lebih dari tujuh tahun atau denda tidak lebih daripada sepuluh ribu ringgit atau penjara dan denda itu kedua-duanya.

(2) Jika seseorang menerima sesuatu perkataan kod, isyaratimbal atau katajodoh rasmi yang rahsia, atau apa-apa benda, suratan atau maklumat dengan mengetahui atau ada alasan yang munasabah bagi mempercayai, pada waktu ia menerimanya itu, bahawa perkataan kod, katajodoh, benda, suratan atau maklumat itu adalah disampaikan kepadanya bersalahan dengan Akta ini, maka ia adalah melakukan suatu kesalahan yang boleh dihukum dengan penjara tidak lebih daripada tujuh tahun atau denda tidak lebih daripada sepuluh ribu ringgit atau penjara dan denda itu kedua-duanya melainkan jika ia membuktikan bahawa perkataan kod, isyaratimbal, katajodoh, benda, suratan atau maklumat itu tlah disampaikan kepadanya dengan tidak dikehendaki olehnya.

Lampiran 17

STPM/B24

SULIT

Ketua Eksekutif
Majlis Peperiksaan Malaysia
Bangunan MPM
Persiaran 1, Bandar Baru Selayang
68100 BATU CAVES
Selangor Darul Ehsan

(u.p. Setiausaha Bahagian Sains dan Matematik)

Tuan/Puan

Peperiksaan Sijil Tinggi Persekolahan Malaysia (STPM)
Akuan Penerimaan Serahan Tugas Penggubalan Soalan

Dimaklumkan bahawa saya telah menerima arahan dan panduan tugas penggubalan soalan peperiksaan STPM bagi kertas yang berikut pada ..... .

Kod kertas **Nama kertas**

2. Bersama dengan ini, saya kembalikan helaian **MPM/P13.1** dan **MPM/P13.2** yang telah saya tandatangani.

Sekian, terima kasih.

Tandatangan: .....

Nama: .....

Tarikh: .....

* Potong yang tidak berkenaan

Lampiran 15

STPM/B25

SULIT

Rujukan kami :

Rujukan tuan :

Tarikh :

Tuan/Puan

Peperiksaan Sijil Tinggi Persekolahan Malaysia (STPM)
Serahan Tugas Penggubalan Soalan

Merujuk kepada surat kami yang bertarikh Majlis Peperiksaan Malaysia mengucapkan terima kasih atas kesudian tuan/puan menjadi penggubal soalan peperiksaan STPM bagi kertas yang dinyatakan di bawah ini.

Kod kertas	**Nama kertas**

2. Sila tuan/puan tandatangani helaian **MPM/P13.1** dan **MPM/P13.2**, dan isi borang **STPM/B24** yang dilampirkan, dan kembalikan kesemuanya ke Majlis Peperiksaan Malaysia dengan segera. Sila gunakan sampul yang bertanda **SULIT** dan masukkan ke dalam sampul beralamat MPM.

3. Tuan/puan dipertanggungjawabkan untuk menyediakan

(i) *draf soalan seperti yang ditentukan dalam Jadual Spesifikasi Ujian yang dilampirkan,

(ii) *draf kunci jawapan/draf skema pemarkahan.

Diharapkan agar tuan/puan dapat menghantar draf soalan dan *kunci jawapan/skema pemarkahan tersebut bersama dengan borang **STPM/B25** dan borang tuntutan bayaran yang telah berisi ke Majlis Peperiksaan Malaysia tidak lewat daripada ..... Sila gunakan sampul beralamat MPM yang bertanda **SULIT** dan masukkan ke dalam sampul beralamat MPM.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Yang menurut perintah

(.....)

b.p. Ketua Eksekutif
Majlis Peperiksaan Malaysia

Lampiran:
(i) Helaian **MPM/P13.1**
(ii) Helaian **MPM/P13.2**
(iii) Borang **STPM/B24**
(iv) Borang **STPM/B25**
(v) Jadual Spesifikasi Ujian
(vi) Sukatan pelajaran
(vii) Panduan Penggubalan Soalan
(viii) Kertas soalan peperiksaan STPM bagi tiga tahun yang terakhir
(ix) Borang tuntutan MPM/AM.4/(Pind.06)
(x) Dua sampul beralamat MPM yang bertanda **SULIT**
(xi) Dua sampul beralamat MPM

*Potong yang tidak berkenaan

Lampiran 23
STPM/B49

PENILAIAN PRESTASI PENGGUBAL

Bil.	Kod penggubal	Bilangan draf soalan			Tempoh penggubalan	Pematuhan arahan keselamatan	Penilaian*
		perlu digubal	digubal	diterima oleh penaksir			

*Nota

✓ Boleh dilantik semula
× Digugurkan

Training of Item Writers

Item writers who are new or do have some experience writing items or show potential to be good item writers are given training by MEC on the writing of multiple choice and essay items. Item writers (from all subjects) are selected to attend a course where they are first given input on the construction of items , characteristics of good and weak items and later the item writers attend a workshop where they write items and other participants of the workshop and the facilitators will provide feedback on the strengths and weaknesses of the items written.

b. Item Validation

Items and key/mark schemes sent in by item writers are first vetted by the subject officer, as in STPM Quality Procedure 4 to ensure that the items meet the curriculum content, test specifications, test format and are accompanied by the key/marking and answer schemes. The items are then coded according to subject code, paper code, year of appointment, item writer code and item number. The items are then assembled into booklets to be brought to the moderation meeting. A moderation booklet may contain a few sets of questions.

Moderators are selected based on the same criteria as item writers as they also have to be recommended, nominated, vetted and approved by the Head of Department and Chief Executive of MEC. The item validation meeting is chaired by the Chief Moderator. Other members who make up the item validation panel are experienced teachers, lecturers and examiners of the subject. The panel members are required to sign the two Official Secrets Act forms of MEC, MPM/P13.1 and MPM/P13.2 as the security procedure to ensure the confidentiality of their appointment and task. Attendance of panel members are taken and panel members sign on their moderation booklets which are collected and kept by the subject officer at the end of each moderation session. These are security measures. Moderation meetings are held at MEC or at hotels (if meetings are also carried out at night).

The documents below are brought to the moderation meeting:

(i) Attendance list
(ii) Official Secrets Act, MPM/13.1
(iii) Official Secrets Act, MPM/13.2
(iv) Subject syllabus
(v) STPM question papers and mark schemes for the subject for the past 3 years
(vi) Reference books for the subject concerned
(vii) Guide to moderating items

(viii) Checklist for moderating multiple choice draft items, STPM/B41

(ix) Checklist for moderating essay items, STPM/B42

(x) Claim forms

Item moderators scrutinize all items to ensure :

- The topics are within the curriculum
- The items assess the stated learning outcomes
- The accuracy of facts
- The items are structured well and clearly expressed
- The paper distinguishes across the full range of ability
- The items are appropriate in length and difficulty
- The weighting of items
- The marks/questions add up correctly
- Items are not biased in terms of culture, gender, religion or politics
- Items are not lifted from books or questions papers from other examination bodies
- The items are at pre-university level
- Mark schemes are complete, correct and relevant to the task

Lampiran 10
STPM/B41

SENARAI SEMAK PENAKSIRAN DRAF SOALAN ANEKA PILIHAN

Kod kertas: ..... Nama kertas: .....

Kriteria / Kod Soalan										
• Soalan tidak terkeluar daripada kandungan sukatan pelajaran.										
• Soalan mempunyai tahap kesukaran yang sesuai dengan tahap STPM										
• Maklumat soalan adalah jelas dan lengkap.										
• Tugasan soalan adalah jelas dan terfokus.										
• Prinsip, konsep, dan istilah adalah tepat.										
• Tidak ada unsur perangkap.										
• Laras bahasa sesuai dengan mata pelajaran.										
• Soalan mempunyai opsyen yang sesuai.										
• Tidak ada pertindihan antara opsyen.										
• Soalan mempunyai kunci jawapan.										
• Soalan tidak berat sebelah dari segi budaya, kaum, jantina, agama, dan politik.										
• Soalan tidak diciplak daripada mana-mana buku atau kertas soalan badan peperiksaan										

✓ Jika dipatuhi
✗ Jika tidak dipatuhi

Disemak oleh:

Tandatangan: .....

Nama: .....

Tarikh: .....

Lampiran 11
STPM/B42

SENARAI SEMAK PENAKSIRAN DRAF SOALAN ESEI

Kod Kertas: ..... Nama kertas: .....

Kriteria \ Kod Soalan												
• Soalan tidak terkeluar daripada kandungan sukatan pelajaran.												
• Soalan mempunyai tahap kesukaran yang sesuai dengan tahap STPM												
• Soalan mempunyai suatu tema yang utama												
• Soalan tidak menguji konsep atau kemahiran yang serupa												
• Maklumat soalan adalah jelas dan lengkap.												
• Tugasan soalan adalah jelas dan terfokus.												
• Prinsip, konsep, dan istilah adalah tepat.												
• Tidak ada unsur perangkap.												
• Laras bahasa sesuai dengan mata pelajaran.												
• Skema pemarkahan lengkap, betul, dan selaras dengan kehendak tugasan soalan.												
• Soalan tidak berat sebelah dari segi budaya, kaum, jantina, agama, dan politik.												
• Soalan tidak diciplak daripada mana-mana buku atau kertas soalan badan peperiksaan												

CONTOH

✓ Jika dipatuhi
✗ Jika tidak dipatuhi

Disemak oleh:

Tandatangan: .....

Nama: .....

Tarikh: .....

The criteria are listed in the checklist for moderators at moderation meetings. Items which do not fulfill the criteria will be rejected or re-amended or re-moderated by the moderators. The checklist is verified by the Chief Moderator. Moderators are also assessed for their performance at moderation meetings using the form, STPM/B48. They are assessed on their participation, whether active or passive and their adherence to security procedures. If the moderator does not contribute actively at the meeting, the moderator may not be appointed again.

Lampiran 22
STPM/48

PENILAIAN PRESTASI PENAKSIR

Bil.	Kod penaksir	Penyertaan dalam perbincangan*	Pematuhan arahan keselamatan**	Penilaian***

CONTOH

Nota:

* 1: Tidak aktif 2: Sederhana aktif 3: Aktif

** ✓ Patuh × Tidak patuh

*** ✓ Boleh dilantik semula × Digugurkan

c. Piloting Test Items

MEC carries out pilot testing for multiple choice items only. It is conducted at selected schools throughout the country. Pilot testing is administered to upper six students. Between 100-200 students are selected as samples which represent 25% of low achievers, 50% of moderate and 25% of high achievers. Pilot testing is only carried out for the subjects which have multiple choice items like Pengajian Am (General Studies), Bahasa Melayu(Malay language), Economics, Physics, Chemistry and Biology.

Subject officers will assemble 3-4 booklets of question booklets. Each booklet will be given a serial number and the booklets will be arranged alternately by subjects and papers. This is to ensure that when the booklets are distributed during the pilot test, the students seated near each other will not get identical booklets and thus malpractice is prevented. STPM/D11 is an example of the cover of a pilot test booklet.

As in STPM Quality Procedure 6, the booklets are spiraled in a restricted area according to the arrangement below:

Example

a. arrangement of booklets according to subject

(i) Pengajian Am (General Studies), code 900

900/1, 900/2, 900/3, 900/1, and so forth

(ii) Chemistry, code 962

962/1, 962/2, 962/3, 962/1, and so forth

b. arrangement of booklets among subjects or between subjects

(i) Social Science subjects – Pengajian Am (900), Bahasa Melayu (910), and Economics (944)

900/1, 910/1, 944/1, 900/2, 910/2, 944/2 and so forth

Pilot testing is administered by MEC officers to ensure the confidentiality of question papers. Instructions and guidelines on the administration of the pilot test are given to MEC officers and a briefing is given by the Deputy Chief Executive 1 on the security procedures. Among the guidelines given are, officers are responsible for the safety of the pilot test booklets as the loss of any booklets will mean that MEC has to prepare new sets of booklets with different sets of items and will have to carry out the pilot test again. Pilot test booklets must constantly be under the supervision of officers in charge. The booklets are carried in a locked bag.

Officers conducting the pilot test are required to check all booklets when collecting them for the pilot test to ensure each are a complete set and after the test to ensure no pages are torn or removed as this means the security procedure has been breached and the items cannot be used in question papers. During invigilation, officers must ensure no misconduct takes place. Selection of items is done by means of item analysis. The selected items will be kept in the item bank. The weak items will be re-amended, re-moderated and re-piloted.

Lampiran 15

STPM/D11

SULIT

Nombor Siri
Buku Soalan ini

UJIAN SELIDIK
MAJLIS PEPERIKSAAN MALAYSIA

200.....

KOD MATA PELAJARAN : **900**

KERTAS : **1**

NAMA MATA PELAJARAN : **PENGAJIAN AM**

MASA UJIAN : **2 jam**

JANGAN BUKA BUKU INI SEHINGGA ANDA DIBENARKAN BERBUAT DEMIKIAN

Ujian ini mengandungi **enam puluh** soalan. Bagi tiap-tiap soalan, diberikan **empat** pilihan jawapan: anda dikehendaki memilih **satu** jawapan yang paling sesuai dan menandakannya pada helaian jawapan yang berasingan.

Baca arahan pada helaian jawapan yang berasingan itu dengan teliti.

Jawab **semua** soalan. Markah tidak akan ditolak untuk jawapan yang salah.

Buku soalan ini mengandungi halaman bercetak

d. Security Procedure

Various security measures are taken by MEC to ensure the confidentiality of questions or question papers and security in test administration. Measures are also taken to ensure the personnel working at MEC or personnel helping MEC to write, moderate items or conduct the test do not divulge confidential information related to the examinations which they are privy to.

Security procedure related to personnel at MEC

MEC officers like the subject officers, heads of departments from the Science, Social Science, Security Printing Division, Deputy Chief Executive 1, and editors who have direct contact with items, item writers, item moderators, assembly of question papers, review of question papers, proof reading or editing, verifying and validating manuscripts, all have to undergo a security screening process by the Office of Security Screening Division, Prime Minister's Department. An interview is part of the screening procedure as one has access to confidential information. All the officers above are also required to sign the two Official Secrets Act forms, MPM/P13.1 and MPM/P13.2 which if breached, would mean a jail term and a heavy fine.

Security related to work procedure

a. Item writing and moderating of items

When item writers and moderators accept their appointments and before moderators are handed over the moderation booklet at the moderation meeting, they are required to sign the two Official Secrets Act forms. Item writers and moderators are to keep their appointments confidential .

Item writers are instructed to hand over their items by post in stamped CONFIDENTIAL MEC return envelopes or hand over the items personally to the subject officer. Item writers cannot send in their items via email or shared networks or keep any copies of the items written.

Moderators refrain from discussing the items moderated outside the meeting room for moderation . Moderation booklets, signed are collected at the end of each moderation session and attendance is taken at each session. No slips of papers or notes are to be taken out of the meeting room or left behind. They are to be collected and shredded.

Item writers and moderators will not know which items will appear in the question papers as the items moderated are to be banked for later use.

a. Pilot testing

As mentioned earlier, to ensure the security of test items for pilot testing, the booklets are handled with care to ensure all are accountable for prior or after the test. The booklets are checked before and after the test. They are also spiraled to prevent cheating. Officers must ensure no misconduct is shown by test sample in terms of bringing in any pieces of paper other than a pencil and eraser, and that cheating or communicating with another candidate does not take place.

b. Security Control at the Strong Room

The combination key of the strong room where question papers are kept in steel cabinets is known only by designated officers. Officers and staff who enter the strong room are required to sign in a book which keeps a record of those who enter or leave the strong room. The strong room is equipped with CCTV.

The reading of proofs, camera ready copies (CRC), pre-printed copies and printed copies is conducted within the strong room or restricted area in the Security Printing Division. The process of taking out and keeping question paper confidential files for reading and vetting is recorded in the Movement of Files record book verified by an officer. Preparation of proofs and CRC is done by confidential clerks in this division.

c. Security management of consignment of question papers

Before the despatch of question papers to states in Malaysia (14 states), a meeting is held between MEC officers and various departments like the customs and police to coordinate the despatch operation. These personnel are also required to sign the Official Secrets Act forms. Bonded trucks loaded with consignments travel to each zone escorted by MEC officers and the police. Consignments are handed over to state education departments at the state/district/zone strong rooms. The strong rooms are then guarded till the examination is over.

d. Administration of Examination

On the days of the examination, the Chief Invigilator and his assistant will collect the question papers for the day from the district strong room. He has to check that he has collected the question papers for the subject for that day and the right number of question papers for his examination centre. He is to head straight for his centre with the question papers without

stopping anywhere. The question papers are to be locked in a steel cabinet before the examination begins. Before the question papers are distributed to candidates, the Chief Examiner is required to show two candidates seated in front of the examination hall or room, the polybag containing the question papers in order to verify that the polybag has not been tampered with. This is to ensure the security of the question papers. The two candidates then sign in a booklet as verification. The question papers are then distributed to candidates.

Results

a. Standard Fixing

The duty of the Certification Committee is to determine the standard and award the grade for each paper and subject. Members of the Certification Committee consist of the Chief Executive of MEC (Chairman), the Vice Chancellor of a public university, the Director of Examinations of the Examinations Syndicate, the Deputy Chief Executive 1 of the Research and Test Development Sector, the Deputy Chief Executive 2 of the General Administration, Finance and Test Administration Sector and the Chief Examiner for each paper of a subject. To ensure that the standards of the STPM certificate are equivalent to that of the A Level certificate, MEC invites a representative from Cambridge Assessment to be the advisor of the Certification Committee.

Grading decisions are established using a combination of professional judgement and statistical evidence. The professional judgement of the Chief Examiners is based on their marking of answer scripts.

b. The Grading System for STPM

The STPM grading system is based on Grade Point Average (GPA). The highest grade is 4.00 and the lowest is 0.00. The STPM results are expressed in terms of grades A, B, C, D and F, of which A is the highest grade and F is the lowest (fail). Grades A, B and C are full passes and grade D is a partial pass.

The grades for each STPM paper and subject are as follows:

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
SGP	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.00
Rating	Full pass (principal)							Partial pass (subsidiary)			Fail

SGP = Subject Grade Point

c. The New STPM Examination Results

The new STPM examination results will be released based on the accumulation of the best results of three terms together with the SBA result.

There are 8 options for the selection of STPM subject grades, which is based on the best results as follows:

Option	**Paper 1**	**Paper 2**	**Paper 3**	SBA
1	Term 1	Term 2	Term 3	SBA
2	Term 1	Term 3 (U)	Term 3	SBA
3	Term 3 (U)	Term 2	Term 3	SBA
4	Term 3 (U)	Term 3 (U)	Term 3	SBA
5	Term 1	Term 2	Repeat Session	SBA
6	Term 1	Term 3 (U)	Repeat Session	SBA
7	Term 3 (U)	Term 2	Repeat Session	SBA
8	Term 3 (U)	Term 3 (U)	Repeat Session	SBA

The best examination result (highest score) will be taken into account.

d. The Use of Test Scores

The general requirement for the application of admission to programs in local public institutions of higher learning for the year 2011 is as follows:

a. Pass the Malaysian Certificate of Education (Sijil Pelajaran Malaysia (SPM)) examination or its equivalent with credit in Bahasa Melayu and

b. Pass the Malaysia Higher School Certificate (*Sijil Tinggi Persekolahan Malaysia* (STPM)) examination for the year 2010 with at least 2.00 CGPA and obtain at least: A grade C (SGP 2.00) in General Studies and a grade C (SGP 2.00) in two (2) other subjects or

c. Pass the Malaysia Higher School Certificate (*Sijil Tinggi Persekolahan Malaysia* (STPM)) examination for the year 2009 or prior to that, with at least a grade C (SGP 2.00) in three (3) subjects including General Studies

d. Obtain at least a Band 1 in the Malaysian University English Test (MUET).

Test scores also determine the program students are eligible for when applying for a place in the university. For example, obtaining 4.00 Cumulative Grade Point Average would give a student a better chance to enter the medical program. Scores are also used to provide information on the performance of students, whether urban school students perform better than rural school students, whether boys perform better than girls, whether science stream students perform better than the social science students whether students perform better in certain subjects, whether government school candidates perform better than private school candidates and performance by states.

Innovation/ The Use of Technology

In efforts to improve the administration of the STPM examination and other examinations, MEC replaced the mainframe computer system used since 1986 with a client server system in 1994. This system uses a more efficient database management system. In 1995, MEC provided Internet and email access to enhance communication among its staff and between MEC and the State Education Departments.

a. Registration and checking of results online

In order to enhance its quality of service to clients, the checking of registration details and examination results via short messaging system (SMS) was introduced in 2005 and via online in 2006 respectively. In addition, the computer hardware was also upgraded from time to time to meet requirements. The systems for the registration and processing of results were also upgraded in order to provide enhanced services to clients.

Candidates from public and private schools/institutions register for STPM through their respective schools/institutions by using the online registration system

built in 2010. Private individual candidates register for STPM online while the checking of their registration details is carried out via MEC's portal.

b. e-Submission

In line with the "People First Performance Now" concept, MEC constantly seeks to improve its quality of customer service by using Information and Communications Technology (ICT) as a tool. The e-Submission system was built in 2010 and has been fully operationalized since 2011.

The e-Submission system involves score submission for written tests, oral tests and as well as SBA. As a result, the process of score collection is swift, accurate and effective. For continuous improvement, MEC carries out post-mortem for online service from time to time.

c. e-JKC

This system allows the Chief Invigilator at the examination centre to enter online information on candidates' attendance for each examination session. The system is also aligned with e-Submission to ensure that absence of candidates for examinations will immediately be updated.

d. MEC e-Service Platform (MeSP)

To sustain competition in this digital era, MEC set up an ICT system named MEC e-Service Platform (MeSP). In MeSP, all processes which involve customers and MEC employees are upgraded. Access by internal and external users is also simplified. MeSP is expected to improve the quality of parcel delivery of materials and customer service. All proposed modules will start operations fully in mid-2013.

e. Rechecking of Results and a Paperless System

To support the Public Sector ICT Strategic Plan, that is, "Back Office Application', Paperless Initiatives, and 'Zone Face to Face', MEC improved its work processes which involve customers by using ICT to ensure the services delivered to customers are efficient and effective. The enhancement of work processes for MUET Mid-Year 2011 appeals for rechecking of results successfully accelerated the release of results from the duration of 30 days to 18 days.

MEC always seeks to reduce paper usage in its daily operations. Among the initiatives undertaken are to upload all forms into its portal. Notices go online and through SMS. Registration and checking of results are online as well as e-Submission and e-JKC. MEC has

successfully saved up to half a million sheets of paper a year when implementing these initiatives.

Problems, Obstacles, Solutions

a. The School-Based Assessment for Educational Reform

The many drawbacks of summative evaluation resulted in a worldwide paradigm shift towards formative assessment which is continuous and on-going and administered as school-based assessment. The Ministry of Education has put emphasis on formative evaluation. This is in line with global trends of testing and measurement and the Ministry is now looking towards school-based assessment (SBA) as a catalyst for educational reform. But the implementation of school-based assessment causes some problems and obstacles to MEC, teachers, students and school administrators.

b. Present Situation of SBA

SBA has been implemented in all form six schools since 2012. Prior to the implementation of SBA, state and master trainers from 16 states were trained and briefed on the marking scheme so that they can assist the subject teachers in their states to conduct assessment and to prepare reports. Subject teachers in each state were then briefed by the state and master trainers to conduct the SBA assessment. This system causes dilution of information. Some of the teachers especially the new ones find it difficult to understand the rubrics in the marking scheme as they were not involved in the marking of STPM examination papers before.

Integrity and professionalism of teachers

Teachers award high scores to high quality of coursework. However, in some cases, students are given high scores but the quality of coursework is moderate or poor.

Planning of teachers and students

Some teachers fail to plan their work effectively. They claim the SBA system makes them work even after school hours so as to finish assessing students' presentation of their coursework. Teachers rarely carried out oral presentations or group work with their students before. Thus, SBA imposes an extra burden to them. The situation becomes worse if they have a big number of students in their class. They are of the opinion that if they try to carry out all those activities in class, they will not be able to complete the syllabus for the 60 - 80%

centralised written examination weighting which they consider as more important than the SBA weighting of 40 - 20%.

Some students do not plan their work effectively therefore, they have to interview their respondents several times before they can obtain the information they want or they fail to make appointments with the interviewee prior to their visit when carrying out the SBA project. Students find SBA costly as it involves printing and travelling costs.

Perception of teachers

Some teachers are reluctant or hesitant to accept changes and new developments.

c. Solutions

Some of the solutions to the implementation of SBA are as follows:

- Guiding teachers to plan their work effectively in order to lessen their workload and teaching them methods of assessing group performance.
- Promoting integrity and professionalism among teachers by

(i) active monitoring and observing as well as providing assistance on the implementation of SBA in schools by MEC Officers, Head Moderator or State and Master Trainer

(ii) checking evidences of samples scripts and project work of students

(iii) moderating the marks given by teachers when MEC finds inconsistency in the marking of coursework by teachers.

(iv) training or giving workshops or briefings to teachers to help them understand the rubrics and how to mark their students' work.

- Changing the mindset and perception of teachers towards SBA by occasional social visits to schools by MEC Officers to monitor the assessment activities and having dialogues with teachers, students, school administration and parents to help them understand the objectives of SBA.
- Costs are the most frequent obstacle to establishing alternative assessment programs. Suggestions on how to get around the financial problem may involve the schools allocating funds for their students to use for buying paper and ink for the printer or having a special room for SBA with a few computers and printers in it to be used by students to carry out their coursework.

d. Discussion:

Teachers know that SBA, which involves students in activities such as making oral presentations, developing a portfolio of work, undertaking field work, carrying out an investigation, doing practical laboratory work or completing a design project, help students to acquire important skills, knowledge and work habits that cannot readily be assessed or promoted through paper-and-pencil testing. Not only are these outcomes that are essential to learning within the disciplines, they are also outcomes that are sought by tertiary institutions and employers. Moreover, these are activities that students find meaningful and enjoyable. (HKEAA, 2009).

SBA closely aligns curriculum expectations, subject and performance criteria, and desired learning outcomes. It engages teachers in assessment development and scoring as a way to improve their professional practice and their capacity to support student learning and achievement. Students are engaged in authentic assessments to enhance their motivation and learning. SBA seeks to advance student learning in higher-order thinking skills and problem-solving by using a wider range of instructional and assessment strategies. And it privileges quality over quantity of standardized testing—moving systems from 'accounting' to more useful 'accountability' for learning.

On-going evaluation by coursework, projects and practical work enhance critical thinking, creativity, innovation, maturity and self-independence. It also prepares students for tertiary education and the real world.

Issues and Trends of National Assessment

a. Aspirations for the Malaysian Education System and Malaysian Students

In order to properly address the needs of all Malaysians, and to prepare the nation to perform at an international level, it is important to first envision what a highly-successful education system must accomplish, particularly in the Malaysian context. What kinds of students are best-prepared to meet the challenges of a 21st century economy? What kind of education prepares them for this rapidly globalising world?

These aspirations comprise two aspects: firstly, those for the education system as a whole, and secondly, those for individual students. This vision, and these aspirations, will set the stage for the transformation of the Malaysian education system.

b. **System Aspirations**

There are five outcomes that the Malaysian Education Blueprint aspires for the education system as a whole: access, quality, equity, unity, and efficiency.

Quality: All children will have the opportunity to attain an excellent education that is uniquely Malaysian and comparable to the best international systems. The aspiration is for Malaysia to be in the top third of countries in terms of performance in international assessments, as measured by outcomes in TIMSS and PISA, within 15 years. (TIMSS and PISA currently test literacy, Mathematics, and Science only. Additional assessments that address other dimensions of quality that are relevant to the Malaysian context may be included as they are developed and become accepted international standards).

c. **Eleven Shifts to Transform the System**

The Ministry has identified 11 shifts to deliver the change in outcomes envisioned by all Malaysians. Each shift will address at least one of the five system outcomes of access, quality, equity, unity, and efficiency, with quality as the common underlying focus across all shifts due to the fact that this is the dimension which requires the most urgent attention.

Shift 1: Provide equal access to quality education of an international standard

Why it is needed: The foundation for the success of a school system lies in its definition of what its students must know, understand, and be able to do. Malaysian students have historically excelled at reproducing subject content. However, this skill is less valuable in today's ever-changing economy. Instead, students need to be able to reason, to extrapolate, and to creatively apply their knowledge in novel, unfamiliar settings. They also need attributes such as leadership to be globally competitive. As the TIMSS and PISA international assessments have demonstrated, Malaysian students struggle with higher-order thinking skills. Surveys of Malaysian and multinational companies also suggest that students fall short on the soft skills looked for by prospective employers.

What success will look like. Firstly, standards for student outcomes and learning practices will be benchmarked and aligned with that of high-performing education systems so that the students that Malaysia produces are globally competitive. Secondly, students who need more help will be given access to the right levels of support to succeed at school.

Benchmark the learning of languages, Mathematics, and Science to international standards.

Every student will receive a strong grounding in literacy and numeracy—the foundational skills for all further learning—as well as in Science, a key growth area for the Malaysian economy. They will be taught a curriculum that has been benchmarked to the standards of high-performing education systems, and this benchmarking will be validated by an independent party to enhance parents' confidence. The Ministry will also set and monitor performance targets for its performance on the PISA and TIMSS international assessments. Additional assessments that address other dimensions of quality that are relevant to the Malaysian context may be added as they are developed, and become accepted international standards.

Launch new Secondary School Standard Curriculum or *Kurikulum Standard Sekolah Menengah* **(KSSM) and revised Primary School Standard Curriculum or** *Kurikulum Standard Sekolah Rendah* **(KSSR) in 2017.** The school curriculum at both primary and secondary levels will be revised to embed a balanced set of knowledge and skills such as creative thinking, innovation, problem solving, and leadership. This curriculum will still stress student-centred and differentiated teaching, but have a greater emphasis on problem-based and project-based work, a streamlined set of subjects or themes, and formative assessments. The new curriculum will also support an accelerated learning pathway for high-performing students to complete SPM in four rather than five years, and *Ujian Pencapaian Sekolah Rendah* (UPSR) in five rather than six years. Additionally, clear learning standards will be laid out so that students and parents understand the progress expected within each year of schooling.

Revamp national examinations and school-based assessments to gradually increase percentage of questions that test higher-order thinking skills.

By 2016, higher-order thinking questions will make up 80% of questions for UPSR, 80% of the Form 3 central assessment, 75% of the questions for SPM core subjects and 50% of the questions for SPM elective subjects. MEC will follow suit and increase its percentage of higher order thinking skills items. This change in examination design means that teachers will focus less on predicting what topics and questions will come out and the drilling for content recall. Instead, students will be trained to think critically and apply their knowledge in different settings. Similarly, school-based assessments will also shift their focus to testing for higher-order thinking skills.

MALAYSIA

Name of Organization

Malaysia Examinations Syndicate (MES)
Ministry of Education Malaysia
Block E11, Parcel E, Precinct 1
Federal Government Administrative Centre
62505 Putrajaya, Malaysia
Website : http://www.moe.gov.my/lp
Tel.: +603-8884 6000

Director

Dr. Na'imah Ishak

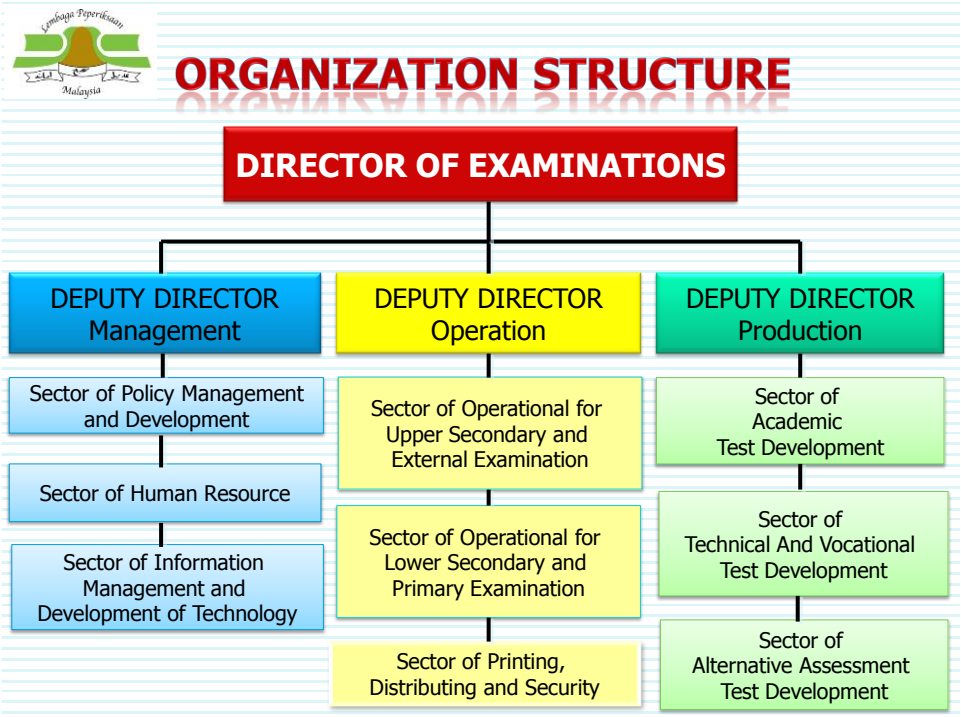
Vision

To Lead a World Class Assessment System by the Year 2020

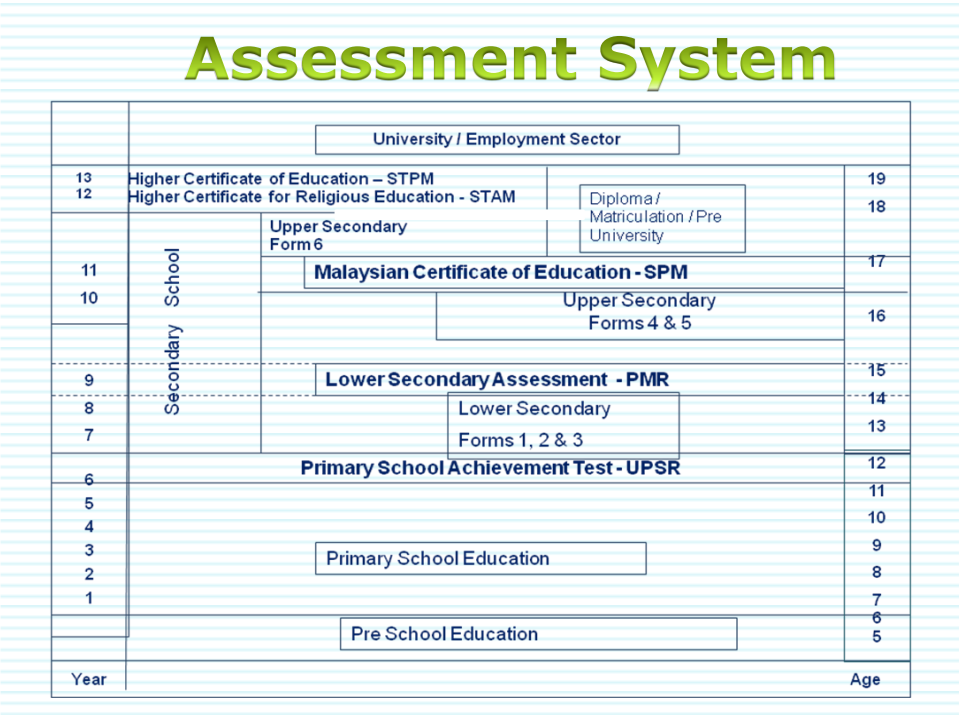
Mission

To develop a world class quality National Educational Assessment System and ensuring the validity and reliability of the assessment towards meaningful and effective learning

Organization Structure



Assessment System in Malaysia



Examinations and Assessments Conducted by MES

National Examinations Conducted By Malaysia Examinations Syndicate (MES)

Level	Age (Year)	Examination	Purpose
Year 6 (End of primary schooling)	12	Ujian Pencapaian Sekolah Rendah (UPSR)	Assessment
Form 3 (End of lower secondary schooling)	15	Penilaian Menengah Rendah (PMR)	Assessment
Form 5 (End of upper secondary schooling)	17	Sijil Pelajaran Malaysia (SPM)	Certification
After Form 5	18	Sijil Tinggi Agama Malaysia (STAM)	Certification

7

The two examination bodies responsible for conducting the national examinations in Malaysia are the Malaysia Examinations Syndicate (MES) and the Malaysian Examinations Council.

MES is responsible for Ujian Pencapaian Sekolah Rendah – UPSR (Primary School Achievement Test), Penilaian Menengah Rendah – PMR (Lower Secondary School Assessment), Sijil Pelajaran Malaysia – SPM (Malaysia Certificate of Education) and Sijil Tinggi Agama Malaysia – STAM (Malaysia High Religious Certificate). MES is responsible for developing the test instruments which include the directives and guidelines of the test and the marking schemes. It manages these activities through panel meetings with tight security procedures. The test instruments for national examinations consist of paper-and-pencil tests, course work and practical work.

The members of the panel meetings are school teachers with criteria such as have been teaching the subject for more than 5 years. This is to ensure that they are the content expert in the subject area. The items are built based on standard test specification and then evaluated through the 9-point system to ensure the functionality of an item to produce score of high

validity. The 9-point system is a systematic procedure to evaluate test items to assure fairness to the examinee and validity of the test, aligned with the concept of relevance and representativeness as suggested by Messick, 1989. The components of the 9-point system are: 1) conformity--(to curriculum, the opportunity to learn and test specification); 2) precision--(construct, context and clarity of item presentation); and 3) suitability (difficulty level, importance and fairness of the item). MES runs a pre-test to the items to obtain empirical evidence. Items which met the standard specification are placed in the item bank and then be chosen to be assembled in the test instruments. The items are analysed using classical test theory and MES is now gearing towards IRT for item analysis.

MES sends the final test instruments in the form of camera-ready-copy (CRC) to authorised printers. The distribution of test papers to the states and the examinations centres is fully controlled under tight security and MES has concerted collaboration with relevant government agencies to run this activity.

All the answer scripts are marked by examiners and the criteria set are similar to the panel members.

Standard fixing is one of the most crucial components in any assessment process. In Malaysia, where the national examinations conducted are considered high-stakes, it is imperative that standard fixing be conducted according to best practices and established theories of measurement. Standard fixing in MES is indeed multi-faceted as both norm referenced and criterion referenced approaches are used, some of which are derivatives of methods first described by William Angoff, to gather information of actual performance and recommendations of threshold marks recommended by test builders and chief examiners. MES also includes external assessment experts from other countries in the process of standard fixing.

The grading system of UPSR, PMR, SPM and STAM has gone through several changes. This is in accordance to the changes to the administration of the examination. UPSR and PMR use the 5-grade scales, A, B, C, D, E.

Table 1 shows the grading system for SPM used since the year 2009, when open certification system was introduced.

Grade	Description
A+	Super Distinction
A	High Distinction
A-	Distinction
B+	Super Credit
B	High Credit
C+	Upper Credit
C	Credit
D	Upper Pass
E	Pass
G	Fail

Table 1

The collaboration between MES and Cambridge International Examinations (CIE) qualifies pupils who pass the 1119 English Language SPM paper to be awarded the GCE O-Level certificates. This certificate is also recognised by The Common European Qualification Framework of Reference (CEFR) and The UK National Qualifications Framework (UK NQF). The recognition enables SPM holders to be accepted into the higher learning institution abroad. Another collaboration is between MES and Educational Development International (EDI). This involves the Principle of Account subject at the SPM level.

Table 2 shows the grading system for STAM since the year 2000, when the examination was introduced.

Description
Excellent
Very Good
Good
Pass
Fail

Table 2

STAM is a collaboration effort with Al-Azhar University, Egypt upon the Memorandum of Agreement of Malaysian government with the Al-Azhar University since the year 2000.

The Purpose of National Examinations in Malaysia

National examinations in Malaysia can be considered as high stakes tests. The primary purpose of examinations in Malaysia is to determine student achievement, which indirectly also determines the effectiveness of programs and teaching methods enabling students to realize their potential. The result of UPSR at the end of primary schooling may also be used for selection into boarding schools, high performing schools, art schools and sport schools. The PMR results are also used as an indicator to channel students into Science, Arts, Technical and Vocational streams. The purpose of SPM and STAM results are for certification. The SPM results are used for selection into institutions of higher learning, teachers' training colleagues, matriculation programme and sixth form classess.

Another important use of the results of the national examinations results are to provide feedback to the Ministry of Education on educational development for future planning and keeping statistical data of academic achievement of students.

The Use of Technology

Being the only examination organization that administers national examinations based on a national curriculum at primary and secondary levels, MES pioneered the use of main frame computers to process examination data, scoring and results in the early 1960's. MES has also done with the online registration for candidates in the national examinations.

Innovation in Assessment – The National Education Assessment System (NEAS)

MES has introduced NEAS since 2011 as part of its national educational transformation plans to achieve the aspiration of National Philosophy of Education in developing learners' physical, emotional, spiritual and intellectual abilities comprehensively and holistically. NEAS enhances meaningful learning through assessments of learners' profile, achievement, development and involvement through five various modes; School-Based Assessment (comprises of four components) and the Centralised / National Examination for certification.

Concept of School-Based Assessment (SBA) in Malaysian Context

The concept of School-Based Assessment or more commonly known as Pentaksiran Berasaskan Sekolah (PBS) beginning Year 1 in 2011 and Form 1 in 2012 is a reengineering process of the educational assessment in accordance to the National Key Result Area (NKRA) agenda. The implementation of PBS paves the way to a meaningful assessment. It is characterised buy its authenticity and robustness besides being holistic, integrated, low stake and comprising of quality assurance.

PBS consists of four major components, the School Assessment, the Central Assessment, the Physical Activities, Sports and Co-curricular Assessment and the Psychometric Assessment. Figure 1 shows the academic and non-academic components of PBS.

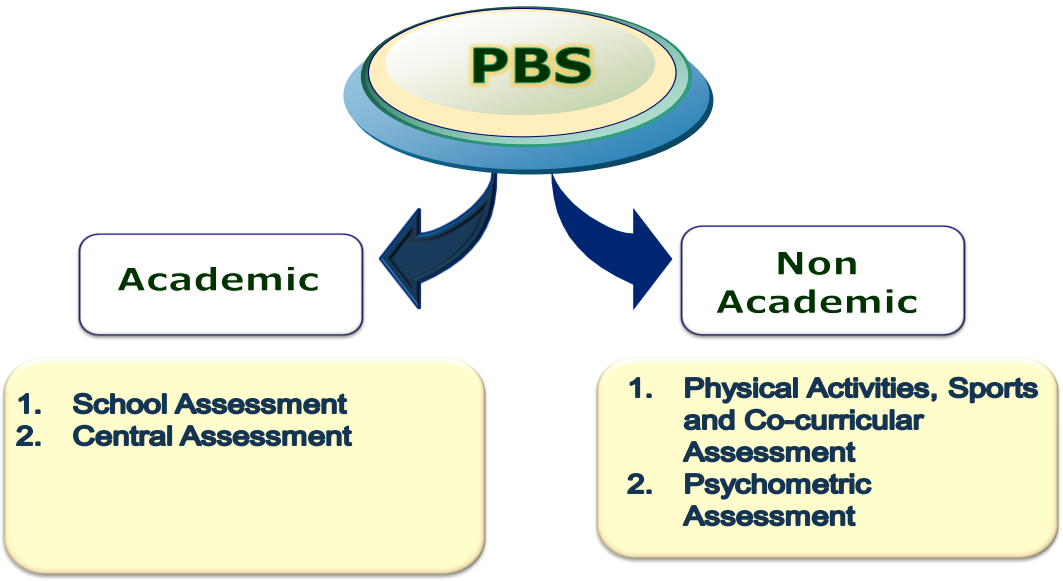


Figure 1: The academic and non-academic components of PBS

School Assessment

School Assessment emphasises on collecting first-hand information about learners' learning based on curriculum standard, whereby teachers plan their assessment, prepare the instruments, administer the assessment, examine learners' responses and report their progress. Teachers could conduct formative assessment and provide constructive feedback and feed forward to learners. Teachers could also conduct summative assessments. Teachers are encouraged to develop various forms of assessments tasks that are authentic, contextualised and could enhance learners' higher order thinking skills and the 21st century skills such as creative, innovative, problem solving and decision making apart from instil moral values. Standard-referenced assessment is the basis of School Assessment to ensure that learners' performances are comparable to accepted world standards in various areas of knowledge, skills and competence. MES developed the performance standards based on the standard-based curriculum and they will be the guiding factor that helps teachers, learners and parents monitor learners' progress in learning.

Central Assessment

Central Assessment is another academic component in PBS which is conducted and administered by teachers in schools using instruments, scoring rubrics, guidelines, time line and procedures prepared by MES. Authentic assessment with various instruments and tasks is designed for Central Assessment to gather sufficient and more accurate information about learners' ability and performance. The process of administering this assessment will be monitored by MES and the PBS committee at school, district and state levels to ascertain that the scores awarded by the teachers comply with the rules, guidelines and procedures. Teachers have to submit learners' scores in this assessment to MES.

Physical Activities, Sports and Co-curricular Assessment (PAJSK)

Physical Activities, Sports and Co-curricular Assessment or PAJSK refers to the type of assessment which records learners' physical endurance and body mass index, and learners' participation, involvement and contributions in sports, co-curriculum and extracurricular activities. Such records serve as added value to learners' well-being and complement the introduction of the concept and policy of One Student One Sport or known as 1M1S (Sports Division, 2011). The information collected is to encourage learners to participate in physical and outdoor activities alongside with the academic achievement. This aspiration is very much desired in a multi-racial country like Malaysia in order to maintain a united, peaceful and harmonious nation. Furthermore, the record and report of these activities could also be used as added value to learners' application for further education and training. This gathering of information is an acknowledgement and recognition of learners' participation in sports and outdoor activities as part of learning process which enriches learners' knowledge, soft skills, and experience. Such activities are the driving factors to building a strong and rounded character in enhancing human capital as advocated in the National Philosophy of Education.

Psychometric Assessment

The fourth component of PBS is the Psychometric Assessment; a profiling assessment which emphasises on learners' learning inclination, attitudes, aptitude, interest and personality. This assessment enables teachers to identify learners' interest, innate ability and learning styles, and subsequently help them progress in their learning accordingly. MES prepares the psychometric test instruments and guidelines with the help of professional psychologists and

counsellors. The Psychometric Assessment is conducted whenever needed in the upper primary level. School counsellors are responsible to administer the Psychometric Assessment in school and provide appropriate professional advice based on the results. However, as the results of personality inventory are confidential, only the results of the aptitude test are shared with the class or subject teachers to help learners in their learning process. As the assessment is used to help learners, the results of the assessment will not be used to influence learners' overall achievements or grades.

Quality Assurance

There is no doubt that quality assurance plays an important role in the success of any school-based assessment and so does it for PBS. Therefore, MES has set up a mechanism of quality assurance to ensure that the implementation of PBS is in accordance to its intended goals. The proposed quality assurance mechanism includes the mentoring, monitoring, moderating, and trekking measures to ensure the validity and reliability of the assessments. Schools will be monitored to ensure that the implementation of PBS is in accordance to procedures. Learners' performance will be moderated to ensure that there is uniformity and reliability in teacher's recording and reporting of an assessment. Teachers will be guided, facilitated and mentored in the process of conducting an assessment in school. To ensure the success of PBS in schools, study, feedback and reviews will be carried out as trekking tools to enhance the instrument and method of assessing learners through PBS. The quality assurance is the responsibility of MES and the PBS Committee at the state, district and school levels.

PBS Management System (*Sistem Pengurusan* PBS – SPPBS)

Judging from the four components of PBS, one would raise the question of the workload and clerical work that teachers have to endure in the implementation of PBS. In actual fact, teachers have been assessing learners since long time ago either formally through quizzes and tests or informally through question and answer in the classroom. PBS is introduced to allow all of these assessments that teachers have been doing to be recorded and reported in a more systematic way so that learners' progress and growth in learning could be monitored carefully. Subsequently, steps can be taken to improve learners' performance and acquisition of knowledge or skill. The question of workload and clerical work the teachers and public are worried about is addressed with the introduction of two computer applications which are the PBS Management System (Sistem Pengurusan Pentaksiran Berasaskan Sekolah – SPPBS) and the PAJSK Application. The SPPBS is meant for recording and reporting the PBS academic component, while the latter is for the non-academic component. These web-based systems were developed to help teachers record information about learners' acquisition of knowledge and skills in PBS. These systems can generate descriptive reports that can be given to parents, teachers or other stakeholders whenever required. This will reduce teachers' workload to record learners' learning manually and thus, lessen their clerical work.

Issues and Challenges in Conducting School Based Assessment - Pentaksiran Berasaskan Sekolah (PBS)

After more than two years of implementation of PBS in primary schools and more than a year in the secondary schools, related issues and challenges have been identified through series of monitoring activities at various levels, questionnaires, dialogues and small studies conducted by MES. Among the issues are those related to man, machine, materials, methods and environment.

The main issue identified which is related to the man is school readiness in implementing PBS. It was found that school administrators and teachers still have difficulty in accepting the changes made in the policy. The reason being they do not get sufficient information on PBS and lack of relevant trainings. Another issue is teachers' skills which are found inadequate especially in the aspect of developing various assessment instruments other than written tests which they

are used to. Materials on PBS are found to be insufficient for the teachers to refer to whenever they encounter a problem or have uncertainties to implement PBS.

Training all the teachers is a big challenge as it involves a large number, up to a few hundred thousands of them. The cascading training model applied in the initial trainings was found to be not effective enough as dilution of information occurred during the trainings. Subsequently, many teachers have different interpretations on how to carry out PBS in schools. MES then used the in-situ and hands-on approach method starting October 2012. In this training approach, MES officers will directly train the State and District Education officers together with the Head Teachers and the teachers of the identified district exemplary schools who will then train the Head Teachers and the teachers of the schools within the district. They are provided with PBS hands-on training modules and supporting materials on PBS as guidance and reference. The exemplary schools, identified master trainers in schools and the supporting material provided could be referred to as PBS implementation model. Coaching and monitoring after the training will be carried out to guide teachers while teachers' reflection on their PBS practice and feedback provided will enhance their understanding and confidence in implementing PBS.

The SPPBS, which is supposed to be helpful to teachers in reducing their workload has created problems to teachers instead and thus raised the machine-related issue. This is because teachers have difficult time accessing the system due to slow connections and bottled up server and hosting. Various Information and Communication Technology (ICT) divisions in the Ministry of Education have played their roles in rectifying the problems by upgrading the internet connections and providing a separate hosting for SPPBS. The problems have been resolved to a certain extent and teachers have already an easier accessibility to the SPPBS starting March 2013.

The environment-related issue in the implementation of PBS is the class size where the number of learners in each class could reach up to 50 in areas with high density of population such as the urban areas. Teachers in such schools will have hard time organising and managing learner-centred activities and assessments that cater for individual differences. On top of that they have to record learners' progress and development regularly. Physical development in the form of building more classrooms in a limited space of the school compound is sometimes not possible. Therefore, teachers are encouraged to apply collaborative teaching in the classroom so that PBS could still be carried out without burdening them too much.

MES has also done the outreach programmes to parents, inviting them to put PBS in their hearts and hence supporting the implementation of PBS. Emphasised on the descriptive reporting was one of the main agenda in the program so that parents know the meaning of scores that their child gets. Booklets on Frequently Asked Questions on PBS have been published and distributed to ensure uncertainties been answered.

Conclusion

It is hoped that the introduction of PBS in NEAS will be the turning point towards a progressive teaching and learning experience. The Ministry of Education expects the outcomes of PBS will inherently contribute towards achieving the objective of the National Philosophy of Education in developing human capital and could fulfil the aspiration to become a developed nation by 2020. PBS is hoped to provide more meaningful learning and assessment which could equip learners with relevant and necessary knowledge, skills and attitudes to survive in this ever challenging world.

This journey of PBS as transformation in educational assessment is going to be long and difficult, but if Ministry of Education don't bring about the change now, Malaysia may be left far behind. MES and the Ministry of Education have the biggest role to play in the success of PBS alongside the parents, stakeholders and everyone involved in the best interest out of learners' education in Malaysia.

Philippines

Name of Organization

National Education Testing and Research Center (NETRC)
Department of Education
2nd Floor Mabini Building, Meralco Avenue, Pasig City 1600
Philippines

Director

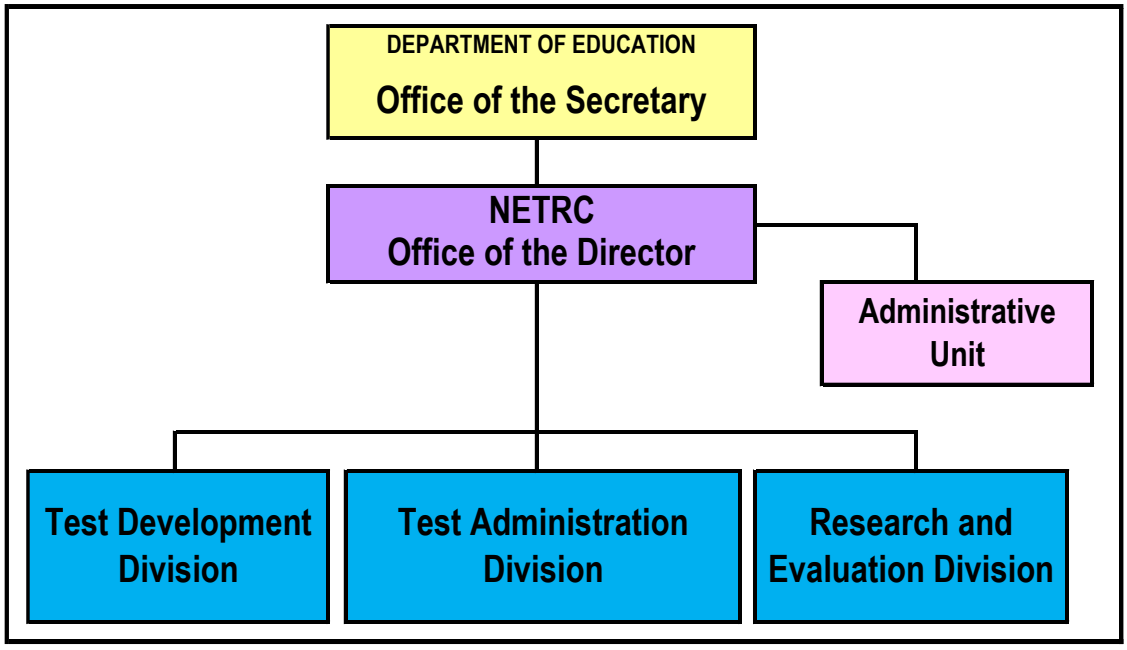
Nelia V. Benito, Ph.D., CESO IV

Vision

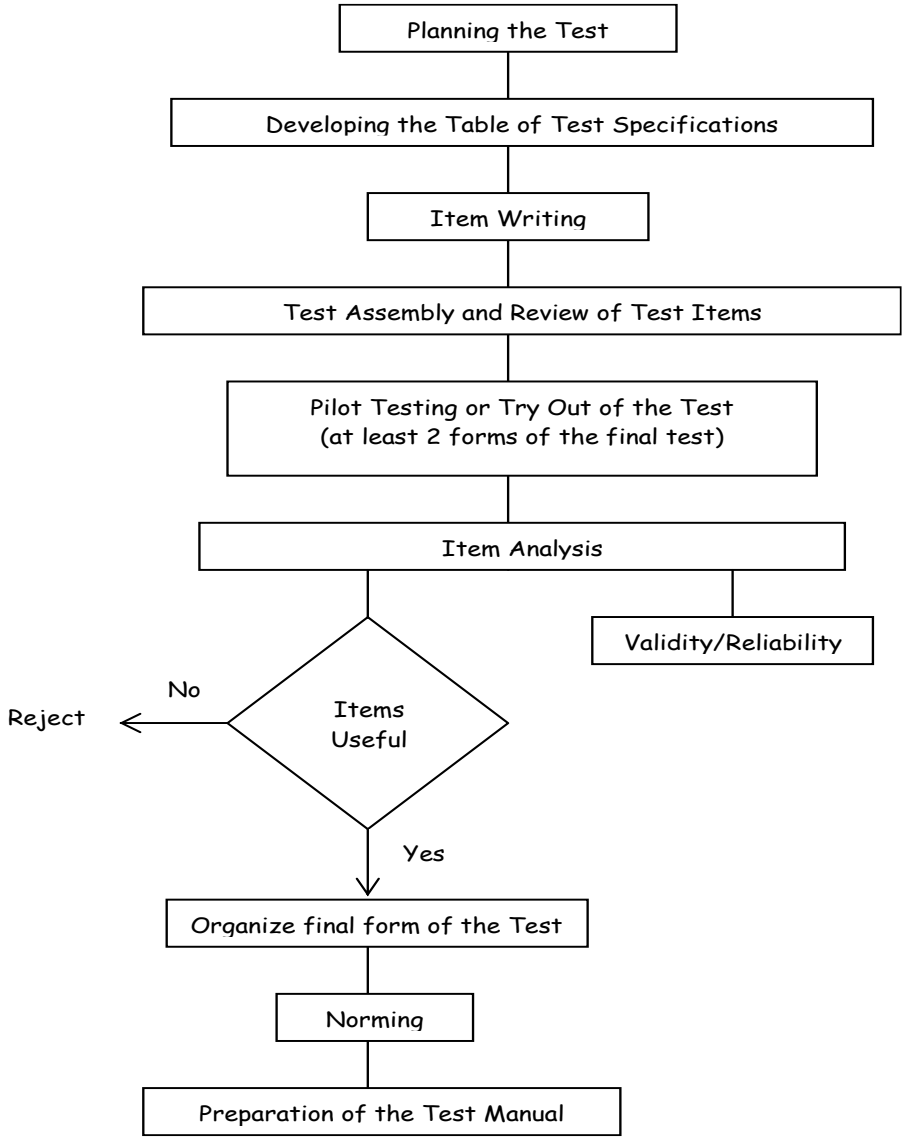
NETRC has set its vision to become a center of excellence in the field of educational assessment, research, and evaluation and to deliver a truly efficient and effective service to its clientele towards the attainment of quality basic education.

Organizational Chart

The operative function of the NETRC is headed by a Director who directs, manages and supervises the technical and support staff. The NETRC formally operates through its main divisions and units as depicted in the Organizational Chart below:



Test Development Process



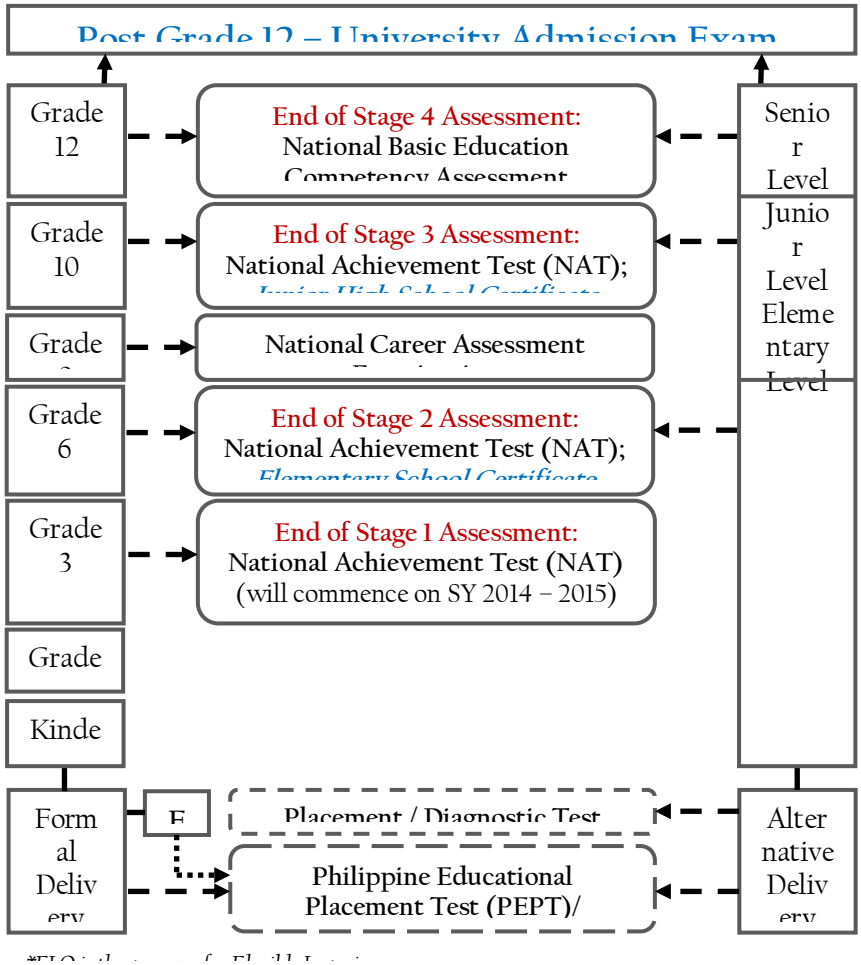
Test/Examination Standards

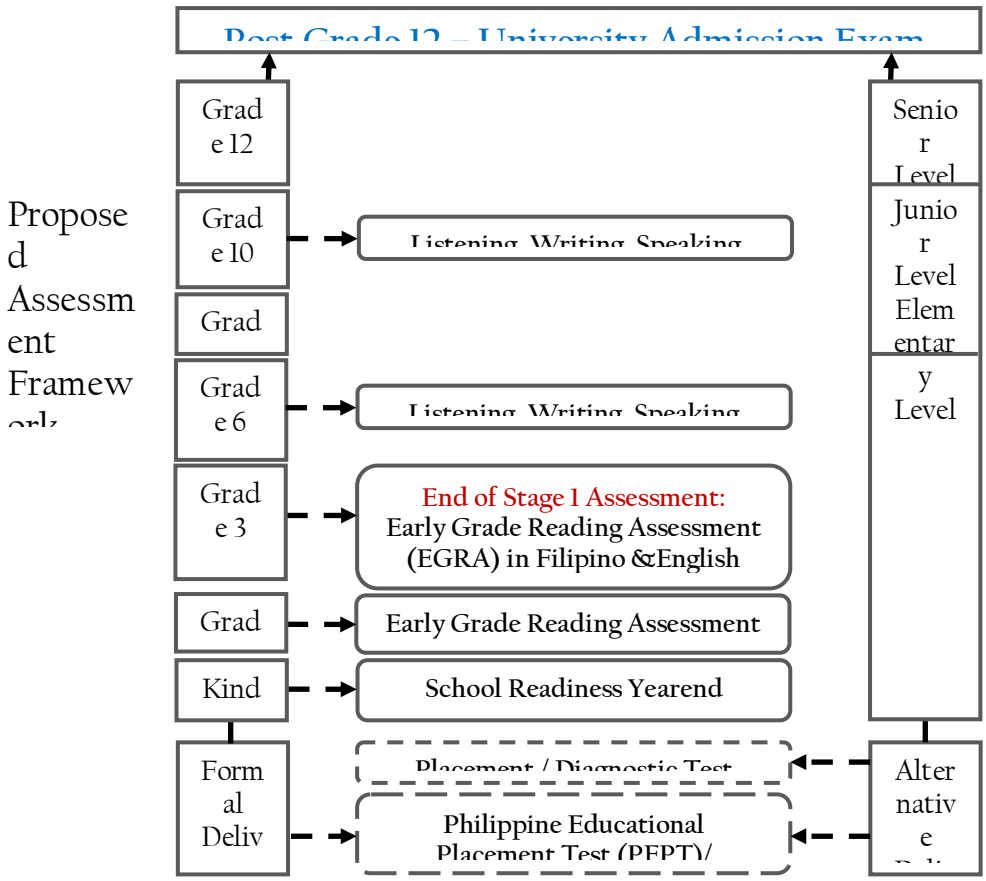
Examination Standards are anchored on the Assessment Framework.

The proposed assessment framework for the K to 12 Curriculum permeates the entire stretch of Basic Education: kindergarten, six years of elementary level, and six years of secondary level. Likewise, the framework has embedded two delivery modes of the Curriculum, the Formal and Alternative Learning Systems. Moreover, the Flexible Learning Options (e.g. OHSP, MIMOSA, etc.) are categorized under the formal structure.

The assessment framework is categorized in two distinct categories, the national and the school levels. There shall be no duplication of testing efforts and approaches *(Dep ED Order No. 7, s. 2012, "Discontinuing the Conduct of the Regional and Division Achievement Tests")*. The assessment covers the 21st century skills including the cognitive and non-cognitive-based skills/tasks.

Proposed Assessment Framework





Who is the item writer?

In – house item writer (a staff with Regular or Contractual status)

- Subject area major in core subjects: Mathematics, Science, English, Filipino and HEKASI/Araling Panlipunan (Social Studies)
- Had undergone a rigid screening process through a battery of psychological and practical exams, interviews, etc. conducted by the staff assigned in NETRC.
- Mentored by subject area specialists while on the job to hone their skills
- Joins staff training conducted by subject area experts from the academe

Item writers (for the outsourced items)

- Classroom teachers, teaching the subject
- College instructors of the subject
- Required to sign an oath of confidentiality before undergoing the task in item writing
- Their items written are further reviewed and improved by subject area specialists of this office

Note: The items in final forms are further subjected to a consultative review.

Pilot Testing or Try Out of the Test

The try out provides data for such purposes as:

1. Identifying weak and defective items
2. Determining the difficulty of each item
3. Determining the power to discriminate
4. Determining how many items should constitute the final test
5. Determining appropriate time limits for the final test
6. Discovering weaknesses in the directions and format

Stages of the Try Out Procedures

1. Pre Try Out. Preliminary administration of test items to small sample (50-100) in which the test is to be used. The procedure is informal.
2. Formal Try Out. Requires a large sample (300 or more) and detailed statistical analysis of each item. Based on the try out data, extensive review and analysis of items are made.
3. Trial Administration of the Final Test. This is conducted to ascertain exactly how the test will function in actual use and to estimate the norms, validity, and reliability and the final form of the test. Also provides a final check on time limits and on the procedures of administration.

Requirement for the Administration of Try Outs

1. Samples should be representative of the population to be tested and be selected by an efficient sampling procedure.
2. Directions should be identical with those that will be used in the final form.
3. It is important that all of the examinees attempt to answer every item. Provide very liberal time limit so that examinees have enough time to consider all items.
4. Try out more items that will be needed for the final form of the test.
5. A minimum of two parallel forms are tried out.
6. Results from the try-out are subjected to item analysis.

Item Analysis

A. Classical Approach
B. Rasch Model

A. Information obtained from the Classical Approach

Item Difficulty or Facility Index (FI) – the proportion of the examinees who answered the item correctly

Formula:

$$FI = \frac{\mu - \ell}{(U + L)} \times 100\%$$

Where μ = number of examinees among the highest scoring 27% of the ranked Distribution who answered the item correctly

ℓ = number of examinees in the L group who answered the item correctly

U = number of examinees in the top 27% of the test takers

L = number of examinees in the bottom 27% of the test takers

Note: $U = L$

FI – Facility Index

Item Discrimination – the extent to which items are capable of measuring individual differences

Formula for the Discrimination Index (DI):

$$D.I. = \frac{\mu - \ell}{U}$$

Where μ = number of examinees among the highest scoring 27% of the ranked Distribution who answered the item correctly

ℓ = number of examinees in the L group who answered the item correctly

U = number of examinees in the top 27% of the test takers

L = number of examinees in the bottom 27% of the test takers

Note: $U = L$

D.I. – Discrimination Index

Effectiveness of Distracters – the complete response patterns associated with all alternatives in each item.

Deciding whether an item is useful after trial: Classical Approach

- point biserial of the correct option
- point biserial of the wrong options
- probability of all options

B. Rasch Model – a statistical procedure for estimating question difficulty and person ability on the same underlying scale, using probability theory applied to student test responses. "Ability" refers to the student's performance level on the test.

Person Ability and Item Difficulty Bands

Ability	Band in Logit Units	Item Difficulty
Exceptional	+2.1 and above	Very Difficult
Above Average	+1.1 to +2.0	Difficult
Average	-1.0 to +1.0	Medium
Below Average	-1.1 to -2.0	Easy
Least Able	-2.1 and below	Very Easy

Deciding whether an item is useful after trial:

Rasch Model

- Variable Map
- Item Fit Map
- Item Estimate

Validity, Reliability and Norming

How do you validate your items?

The final form of the test culled from the pilot tested items with the corresponding psychometric properties then undergoes validation to be administered to the target examinees.

The test results are item analyzed again using the classical and IRT approaches. Likewise, the reliability and validity indices are established from the test results.

Main Concerns of Validity

1. To know if the test is measuring what it is supposed to measure.
2. To know what the score obtained from the use of the test means.
3. To know how an individual's score on a test relates to other observable facts about the individual.

Types of Validity

1. Content-related Validity
   1.1 Face Validity
   1.2 Content Validity
2. Criterion-related Validity
   2.1 Concurrent Validity
   2.2 Predictive Validity
3. Construct Validity
   3.1 Convergent Validity
   3.2 Discriminant Validity

Types of Reliability

1. Test Retest Reliability
2. Alternate Form Reliability
3. Split-Half Reliability
4. Kuder Richardson Reliability
5. Coefficient Alpha
6. Scorer Reliability

Basic Steps in a Norming Study

1. Identify the population of interest.
2. Identify the most critical statistics that will be computed for the sample data.
3. Decide on the tolerable amount of sampling error for one or more of the statistics identified in step 2.
4. Devise a procedure for drawing a sample from the population of interest.
5. Estimate the minimum sample size required to hold the sampling error within the specified limits.
6. Draw the sample and collect the data.
7. Compute the values of the group statistics of interest and their standard errors.
8. Identify the types of normative scores that will be needed and prepare the normative score conversion table.

9. Prepare written documentation of the norming procedure and guidelines for interpretation of the normative scores.

Test Results (What are results of the examination?)

1. Achievement Profile of Examinees (in Mean Percentage Scores) in all levels:

- National, Regional Division and School level. Likewise, report cards are provided to each level.
- Achievement level in the overall test in expressed in defined standards using the normal curve as reference:

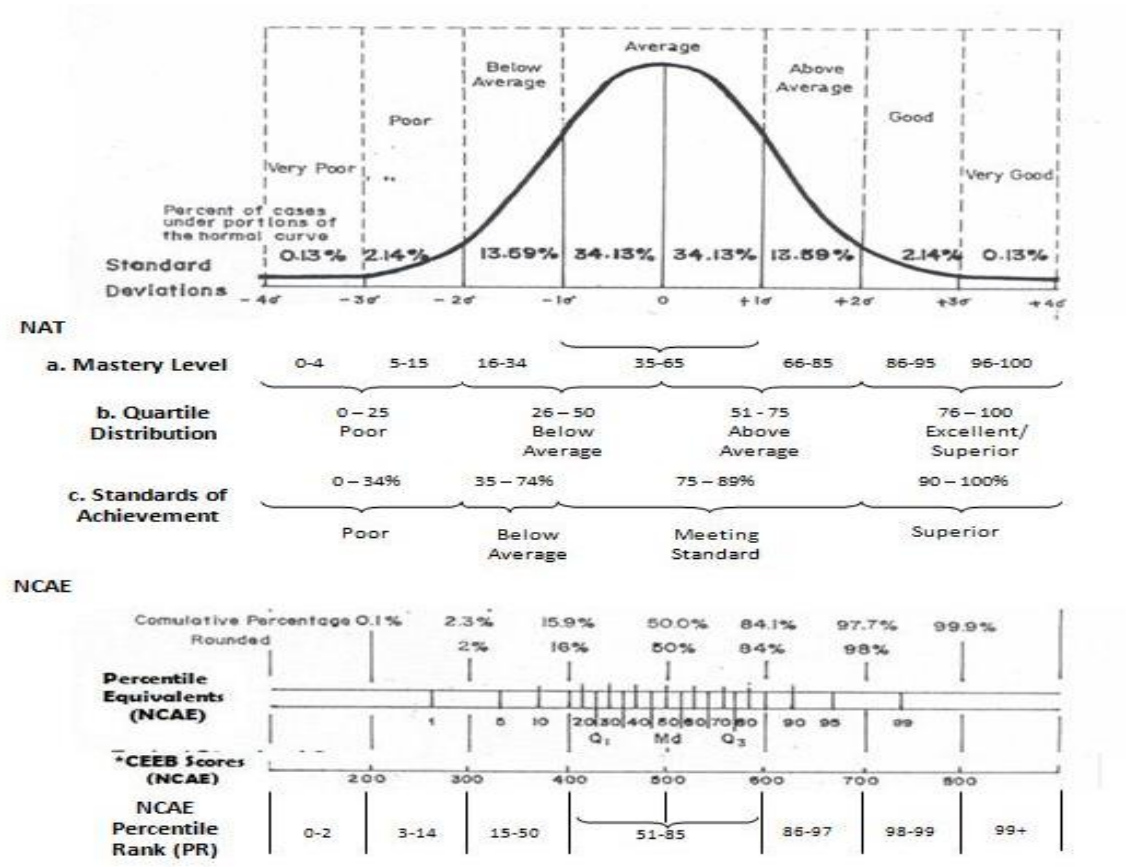


Figure 1 – The Normal Curve as the Point of Reference for the Standards in Assessment

Test Results (What are results of the examination?)

2. Certificate of Rating (COR) issued to Grade 6 Examinees

- Each individual examinee is given with COR in terms of percentage score per subject area and overall test. In addition, the Percentage of Correct Responses (PCR) per competency is provided.

Republic of the Philippines
DEPARTMENT OF EDUCATION
NATIONAL EDUCATION TESTING AND RESEARCH CENTER
Meralco Avenue, Pasig City

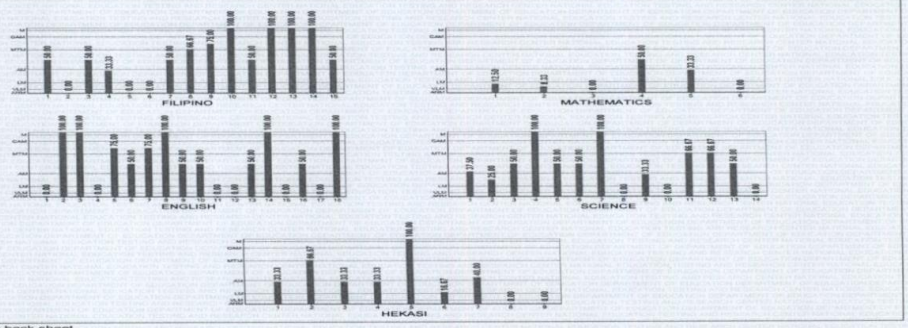
2010 National Achievement Test for Grade Six
Certificate of Rating

EXAMINEE #	EXAMINEE NAME	DATE OF BIRTH
1177786		12-23-1997
SCHOOL ID	SCHOOL NAME	EXAMINATION DATE
400253	College of St. Michael the Archangel	03-05-2010
REGION	DIVISION	
I	Dagupan City	

SUBJECT AREAS	RAW SCORE	PERCENTAGE SCORE	STANDARD SCORE	PERCENTILE RANK
FILIPINO	22	55.00	372.25	12
MATHEMATICS	9	22.50	309.97	4
ENGLISH	22	55.00	431.34	24
SCIENCE	17	42.50	390.65	17
HEKASI	14	35.00	323.02	8
TOTAL TEST	84	42.00	365.45	8

MASTERY LEVEL DESCRIPTIVE EQUIVALENT	
96% - 100%	Mastered (M)
86% - 95%	Closely Approximating Mastery (CAM)
66% - 85%	Moving Towards Mastery (MTM)
35% - 65%	Average Mastery (AM)
15% - 34%	Low Mastery (LM)
5% - 14%	Very Low Mastery (VLM)
0% - 4%	Absolutely No Mastery (ANM)

PERCENTAGE OF CORRECT RESPONSES (PCR) PER LEARNING COMPETENCY ★ MEASURED BY SUBJECT AREA

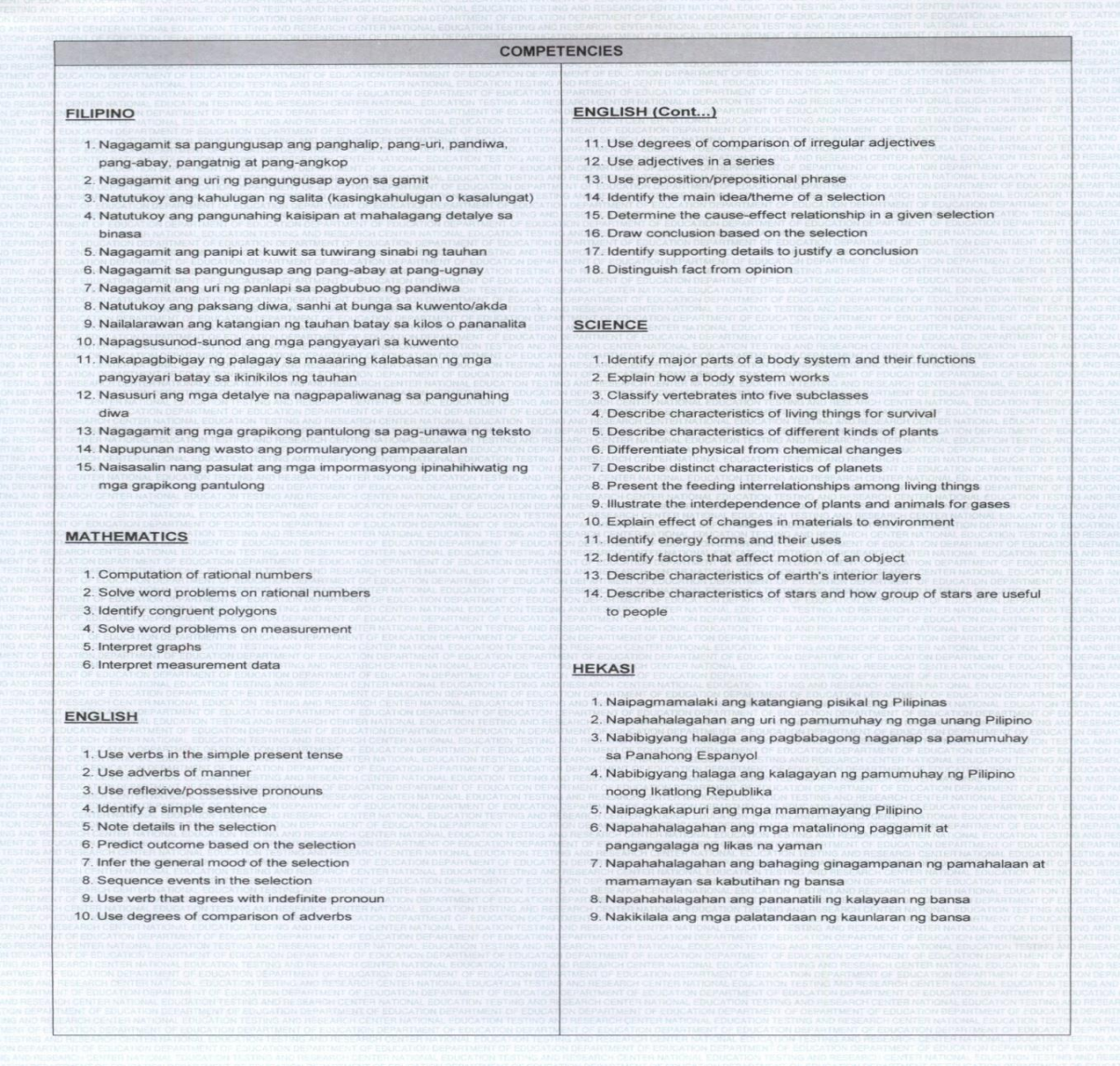


★ Refer to back sheet

NELIA V. BENITO, Ph. D. CESO IV
Director III, NETRC

MONA D. VALISNO, Ph. D.
Secretary, Department of Education

NOT VALID WITHOUT NETRC SECURITY LOGO



COMPETENCIES

FILIPINO

1. Nagagamit sa pangungusap ang panghalip, pang-uri, pandiwa, pang-abay, pangatnig at pang-angkop
2. Nagagamit ang uri ng pangungusap ayon sa gamit
3. Natutukoy ang kahulugan ng salita (kasingkahulugan o kasalungat)
4. Natutukoy ang pangunahing kaisipan at mahalagang detalye sa binasa
5. Nagagamit ang panipi at kuwit sa tuwirang sinabi ng tauhan
6. Nagagamit sa pangungusap ang pang-abay at pang-ugnay
7. Nagagamit ang uri ng panlapi sa pagbubuo ng pandiwa
8. Natutukoy ang paksang diwa, sanhi at bunga sa kuwento/akda
9. Nailalarawan ang katangian ng tauhan batay sa kilos o pananalita
10. Napagsusunod-sunod ang mga pangyayari sa kuwento
11. Nakapagbibigay ng palagay sa maaaring kalabasan ng mga pangyayari batay sa ikinikilos ng tauhan
12. Nasusuri ang mga detalye na nagpapaliwanag sa pangunahing diwa
13. Nagagamit ang mga grapikong pantulong sa pag-unawa ng teksto
14. Napupunan nang wasto ang pormularyong pampaaralan
15. Naisasalin nang pasulat ang mga impormasyong ipinahihiwatig ng mga grapikong pantulong

MATHEMATICS

1. Computation of rational numbers
2. Solve word problems on rational numbers
3. Identify congruent polygons
4. Solve word problems on measurement
5. Interpret graphs
6. Interpret measurement data

ENGLISH

1. Use verbs in the simple present tense
2. Use adverbs of manner
3. Use reflexive/possessive pronouns
4. Identify a simple sentence
5. Note details in the selection
6. Predict outcome based on the selection
7. Infer the general mood of the selection
8. Sequence events in the selection
9. Use verb that agrees with indefinite pronoun
10. Use degrees of comparison of adverbs

ENGLISH (Cont...)

11. Use degrees of comparison of irregular adjectives
12. Use adjectives in a series
13. Use preposition/prepositional phrase
14. Identify the main idea/theme of a selection
15. Determine the cause-effect relationship in a given selection
16. Draw conclusion based on the selection
17. Identify supporting details to justify a conclusion
18. Distinguish fact from opinion

SCIENCE

1. Identify major parts of a body system and their functions
2. Explain how a body system works
3. Classify vertebrates into five subclasses
4. Describe characteristics of living things for survival
5. Describe characteristics of different kinds of plants
6. Differentiate physical from chemical changes
7. Describe distinct characteristics of planets
8. Present the feeding interrelationships among living things
9. Illustrate the interdependence of plants and animals for gases
10. Explain effect of changes in materials to environment
11. Identify energy forms and their uses
12. Identify factors that affect motion of an object
13. Describe characteristics of earth's interior layers
14. Describe characteristics of stars and how group of stars are useful to people

HEKASI

1. Naipagmamalaki ang katangiang pisikal ng Pilipinas
2. Napahahalagahan ang uri ng pamumuhay ng mga unang Pilipino
3. Nabibigyang halaga ang pagbabagong naganap sa pamumuhay sa Panahong Espanyol
4. Nabibigyang halaga ang kalagayan ng pamumuhay ng Pilipino noong Ikatlong Republika
5. Naipagkakapuri ang mga mamamayang Pilipino
6. Napahahalagahan ang mga matalinong paggamit at pangangalaga ng likas na yaman
7. Napahahalagahan ang bahaging ginagampanan ng pamahalaan at mamamayan sa kabutihan ng bansa
8. Napahahalagahan ang pananatili ng kalayaan ng bansa
9. Nakikilala ang mga palatandaan ng kaunlaran ng bansa

Test Results (What are results of the examination?)

3. Competency Analysis in term of Percentage of Correct Response (PCR)

Ex. Subject – Math for Grade 3

Competency	PCR

4. Research Report

- This is a technical report on the research findings which include the correlates of performance, trend analysis on performance over the years, etc.

5. Technical Report

- This chronicles the statistical data of the test which include: the psychometric properties of the test items; item analysis using the classical approach and IRT, and the reliability and validity indices of the test.

Uses of Test Results

Use	Testing Program					
	NAT			NCAE	PEPT	PVT
	G3	G6	Y4	Y3	GI-Y4	GI-Y4
Admit a student to a program						
Make an exit decision						
Place a student into on appropriate class or program (for K to 12 Program)				✓		
Gather information regarding student's achievement	✓	✓	✓			
Diagnose student's learning ability/program	✓	✓	✓			
Others: Validate and accredit knowledge and academic area gained through in formal and non-formal means and place then in formal school or for employment, etc.					✓	
Validate learning gains acquired in various situation under circumstances (e.g. enrolled in school operating without permit, etc.)						✓
Assess the aptitude and occupational interests of third year students for career guidance				✓		

Acronyms:

NAT – National Achievement Test

NCAE – National Career Assessment Examination

PEPT – Philippine Educational Placement Test

PVT – Philippine Validating Test

Security Procedure in Testing Activities

1. Test Development

- Confidentiality and security are observed starting from the preparation of the Table of Specifications or the blueprint and in item writing. At least 3 forms are generated from item writing which undergo pre-validation nationwide; only one form of which is considered as the final form.
- A prayer on honesty is printed in the Test Booklet to be read by each examinee before the test proper starts.
- The final form of the test is printed by the winning bidder. The security printing includes the involvement of quarantined NETRC staff. The test materials are packed with security seals with accompanying packing guide for each division.

2. Shipment of Test Materials

- The Division Testing Coordinator in each division maintains the security and confidentiality of test materials received from the NETRC sent through the Forwarder. A depository area in the Division Office for the TM's is required to be provided for this purpose.

3. Pre-Test Activities Test Administration

- NETRC advisory on the purpose of the NAT and breach of security in national examinations and corresponding sanctions are circulated in the divisions and regions.
- Assignment of Testing Staff is done by the Schools Division Superintendent (SDS).
- There is exchange of Room Examiners and Room Supervisors in different schools.
- The Division Testing Coordinator is the only one authorized to break the seals in each box of test materials to verify the accuracy of allocation vis-a-vis the packing guide.

Test Proper

- The Room Examiner takes custody of all Test Materials allocated in his respective examination room. He keeps unused test booklets in the original plastic bags while the test is going on.
- A breach of security in national examination and corresponding sanctions (DECS Order no. 85, s. 1999) are strictly enforced.

Post-Test

- The Room Examiner seals the Examiner's Transmittal Report Envelope (ETRE) while still in the examination room.
- The Chief Examiner counts every test booklet returned by each room examiner.

4. **Retrieved of Test Materials**

- These are retrieved through a Forwarder; all accounted for by the NETRC staff.

Innovation/Use of Technology

Aspect in Testing	Innovation
1. Item Writing	Item Writing The items are primarily written by the NETRC staff. In a writeshop, subject area teachers are invited to write items. Consultative Review The items written are subjected to a consultative review by the academe. The final form of the test is subjected to a judgmental review by the Bureaus Senior Officials.
2. Statistical data for research purposes	Use of the SPSS-PC and WINSTEP software to generate statistical data.
3. Item Analysis	• In addition to the classical approach, the NETRC makes use of the Rasch Model – a statistical procedure for estimating question difficulty and person ability on the same underlying scale. • Softwares like the QUEST and WINSTEP are applied in generating the psychometric properties.
4. Test Results Dissemination	a. Each school is provided with its test results thru the website. The School Head can log in by using their own School ID as username and password. b. Report cards are provided to the Division, Region and Central Office

Problems, Obstacles, Solutions

Problems/Obstacles	Solution
1. There is the tendency for schools to stress the utilization of national test results on least learned competencies; (assessment of which is through multiple choice test type) to the extent of conducting intensive reviews de-emphasizing other essential skills (speaking, listening and writing skills).	Development of standardized tools for school-based assessment.
2. The society's stigma to low performance of the different levels of education: National, Regional, Division and School levels; results of which is "teaching to the test".	1. Test results are packaged and disseminated by clusters. 2. The NETRC does not provide statistical data on ranking of schools, divisions, etc.
3. The unfilling up of the position of technical staff (e.g. Item writers) who had retired; the implication of which is undermanning the system.	Hiring of contractual employees.

Trends

1. Use of Mother Tongue as the medium of instruction in the early grades (Grade I to III).
2. Emphasis on assessing Early Grade Mathematical Ability (EGMA) and Early Grade Reading Ability (EGRA).
3. Widened scope of dissemination of the test results – the interested internal and external stakeholders.
4. Achievement level seen as one of the nation's performance indicators.
5. Use of ICT in disseminating test results to a large extent.

Singapore

Name of Organisation

Singapore Examinations & Assessment Board (SEAB)
298 Jalan Bukit Ho Swee, Singapore 169565
Website: www.seab.gov.sg

Chief Executive

Ms. Tan Lay Choo

Vision

A trusted authority in examinations and assessment, recognised locally and internationally.

Mission

We assess educational performance so as to certify individuals, uphold national standards and advance quality in assessment worldwide.

We ensure quality in educational assessment, research and related services to serve the
needs of our stakeholders and customers by:

- Supplying excellent assessment instruments and services
- Providing training and consultancy services in examinations and assessment
- Contributing to the field of assessment and discussions on educational matters
- Embracing a culture of innovation for a vibrant and forward-looking organisation

Organisational Structure

SEAB Governing Board is chaired by Director General of Education (DGE), Ministry of Education (MOE), with members from various public and private sectors. The Chief Executive (CE) oversees the executive functions of SEAB. There are about 180 members of staff organised into three divisions: Assessment and Research Division (ARD), Corporate Services Division (CSD), and Operations Division (OPD).

About one-third of SEAB staff is made up of Assessment Officers (AO), another one-third is made up of Management Executives (MX) and the remaining are support staff. About three quarters of SEAB staff have at least a Bachelor's degree.

Development of National Testing and Examination System

Brief History of SEAB

SEAB was established as a statutory board in 2004. Previously, it was the Examinations Division of the Ministry of Education (MOE). As a statutory board, SEAB enjoys greater operational flexibility. It can develop local examination expertise and facilitate research and development in assessment. The move to make SEAB a statutory board is intended to build up its capability and capacity in assessment and this enables the Board to respond to the needs of MOE more proactively and promptly. Also, being a statutory board instills market discipline in the way SEAB conducts its activities. The Board could also expand its activities beyond our national borders.

Key Roles

The main role of SEAB is to conduct national examinations for all the schools under the purview of the Ministry of Education (MOE). SEAB develops, devises and conducts national examinations which support and promote the goals and objectives of Singapore's education system.

SEAB manages all national examinations in Singapore which total about 600 question papers and two million answer scripts annually. The examinations include the Grade 6 Primary School Leaving (PSLE) Examination, the Grade 10 General Certificate of Education examinations at Normal (Technical), Normal (Academic) and Ordinary Level, and Grade 12 General Certificate of Education Advanced Level. SEAB works in collaboration with the University of Cambridge International Examinations (CIE) on the Grade 10 and Grade 12 examinations.

The Board capitalises on the expertise of its staff to provide other examination and assessment products and services. For instance, SEAB has developed the International Primary School Examination or iPSLE in 2005. The iPSLE is offered to overseas schools that wish to benchmark against the Singapore Primary School curriculum. The iPSLE is equivalent to Singapore's local Primary School Leaving Examination (PSLE). There are 15 iPSLE examination centres in 11 cities across 6 countries: China, Indonesia, Myanmar, the Philippines, Thailand and Vietnam.

Besides managing the aforementioned national and international examinations, SEAB oversees other non-national examination and assessment services. For example, SEAB conducts the assessment of the School Placement Exercise for Returning Singaporeans (SPERS) for MOE. In addition, SEAB provides consultancy on the management of large scale examinations to the Ministry of Education of other countries.

SEAB provides training courses in assessment for schools and other organisations. Since its inception in 2004, SEAB has trained approximately 15 000 examiners, school leaders and teachers through numerous courses and workshops, both in Singapore and in various countries in the region. SEAB has also developed a course in educational assessment leading to the award of a Specialist Diploma in Educational Assessment (SDEA) to strengthen the capability and capacity of Singapore schools in assessment. This professional qualification in educational assessment is an annual one-year course. Launched in 2010, it is designed for teachers who wish to function as a facilitator, guide, coach or mentor in the field of assessment in their schools.

New training and consultancy services are introduced to potential clients through meetings, information sessions, newsletters, emails and the SEAB website.

Organisational Relationship

The stakeholders of SEAB are MOE and the SEAB Governing Board. SEAB's customers are national examination candidates, non-national examination candidates, and training participants and agencies (consultancy). The local and international partners of SEAB include schools, Institutes of Higher Learning in Singapore, and the University of Cambridge International Examinations (CIE).

Role of Examinations in Singapore's Education System

National examinations measure the achievement of students at key stages in the education system. In Singapore, national examination results are used for certification as well as placement of students into the various courses and for posting to schools at the next key stage of education.

Historical Contributions of Examinations

In Singapore, examinations have been a part of the education system for more than a hundred years. A major reform in 1979 was the introduction of ability-based streaming, i.e. students of the same age groups being placed in different courses and taught at a pace more suited to their ability. As a result, there are different examinations catering to different

groups of students. This has helped to reduce the dropout rate significantly, and has helped to bring the standard of Singapore's education system to where it is today. In the 1990s, ability-driven education reforms were launched as part of Singapore's "Thinking Schools, Learning Nation" vision. The vision envisaged Singapore as a nation of thinking and committed citizens capable of meeting the challenges of the future. As a result, thinking skills were infused in the curriculum and there was a gradual shift in examinations to a better balance between assessing recall of factual information and higher order thinking skills.

Recent Reforms in Singapore's Educational Landscape

Singapore's Education Landscape is dynamic and responsive to the changing demands of life and work in the 21st century, and consistently updates its curriculum and assessment to ensure its continued relevance and pertinence in an ever-changing world.

In recent years, Singapore has introduced reforms to provide greater diversity, choice and opportunity for students to nurture Singapore students in a holistic manner and prepare them for the knowledge-based economy. Singapore is also strengthening its Physical Education, Art and Music Education so as to achieve a more holistic education for students in Singapore. The intent and spirit of these initiatives are being incorporated into the syllabuses so that national examinations could reflect them accordingly.

In 2011, Singapore moved towards "Student-Centric, Values-Driven" education which centres on values, social emotional competencies and character development. Greater diversity, choice and opportunity have been provided for students that will nurture them in a holistic manner. Greater flexibility has been also reflected in students' choice of subjects at national examinations

Singapore has also introduced measures to develop peaks of excellence in students. The introduction of the Integrated Programme (IP) allows the top 10% to 15% of a cohort to skip the GCE Ordinary Level examinations and be given different curricula to stretch their potential. Students in the mainstream schools have also been given greater flexibility in their choice of subjects at national examinations: students in the Normal (Academic) course could offer some subjects at the Ordinary level and students in the Normal (Technical) course could offer some subjects at the Normal (Academic) level. At the primary school level, there is also now greater flexibility. In the past, students either offered all subjects at the Standard level or at the Foundation level at Grades 5 and 6. Now, depending on their strengths and interests, they can take a combination of Standard and Foundation subjects. At the GCE

Advanced Level, more options are also made available. Three levels of study (H1, H2 and H3) cater to the varied interests and aptitudes of students, as well as to introduce greater breadth across subjects. Subjects offered at H2 are of Advanced Level standard. Subjects offered at H1 are of the same rigour as H2 but are half the H2 curriculum time. H1 subjects offer students sufficient depth for them to acquire foundational knowledge and skills. The JC curriculum provides a more balanced education for students as they are now required to offer contrasting subjects at H1 level. H3 subjects are built on H2 and offer students a variety of learning opportunities to study a subject area in more specialised depth. MOE has also introduced Specialised Independent Schools for students with talents in specific fields. These are the Sports School, the NUS High School for Mathematics and Science, School of the Arts, and the School of Science and Technology.

Testing Procedure

Item Writers

Item writers are professionals in their fields of expertise. Their recruitment is based on the guiding principles of integrity (they are to act with honesty at all times), professionalism (they must have the required professional competency – i.e. expertise in both content and assessment – to carry out their roles and responsibilities), and commitment (they are required to do their best at all times).

Item Validation

Item validation is carried out through moderation processes involving a different group of subject experts.

Piloting Test Items

Test items are trialed where necessary and appropriate.

Security Procedures

All examination personnel are appointed through a protocol with legal declaration and obligations. Only appointed personnel are allowed to perform examination duties.

All question papers, mark schemes and associated materials are kept confidential up to the date and time of the examination.

Results and the Use of Test Scores

SEAB's primary focus is on the Assessment of Learning (AoL). The purposes of national examinations include upholding standards of attainment, certifying attainment of

curricular objectives at specific milestones, placing pupils in appropriate courses, and providing for accountability.

Grading

The grading of subjects is decided at the Grading Committee Meetings (GCM). For subjects jointly developed by Singapore and Cambridge, the GCM is conducted jointly by SEAB and CIE.

Results of Examination

PSLE – Grade 6 (12 year olds): used for streaming to different secondary school courses and posting pupils to secondary schools; based on their results, pupils are placed in either the Express, Normal (Academic) or Normal (Technical) secondary school courses

GCE Normal (Technical), Normal (Academic) and Ordinary Level Examinations – Grade 10/11 (16-17 year olds): used for admission to post-secondary educational institutions (Junior Colleges, Polytechnics and Institute of Technical Education)

GCE Advanced Level – Grade 12 (18 year olds): used for admission to universities

Progression to the Next Key Stages of Education

About 98% (about 50 000 Primary 6 pupils sit for the PSLE every year) of PSLE cohort progress to secondary school courses. The remaining 2% may repeat or go to two schools that cater to the needs of weaker students – Northlight School and Assumption Pathway School. In terms of secondary school course eligibility, about 65% are eligible for the Express course, about 20% for the Normal (Academic) course and about 10% for the Normal (Technical) course.

At Grade 10, students in the Normal (Technical) course will proceed to an Institute of Technical Education which provides courses more vocational in nature. They may then proceed to a Polytechnic. Students in the Normal (Academic) course, after sitting the GCE Normal (Academic) examination, will spend another year of study in their schools and then sit the GCE Ordinary Level examination. Students in the Express course may proceed to Grade 12 for a two-year programme in a Junior College. Students in the Express and Normal (Academic) courses may also choose to study in a Polytechnic if they have done well in their GCE Ordinary Level examination.

Students' Promotion from One Grade to the Next Grade in Schools

In schools promotion is based on students' performance in the school examinations. Teachers develop and assess their own assessments. The Curriculum Planning and Development Division (CPDD) and the Schools Division in MOE oversee school

examinations. SEAB provides consultancy and training to schools to help them acquire the related skills in assessment.

Innovation in National Assessment in Education

Singapore has made some innovations in the introduction of Project Work and Source-based Questions in the national examinations. It has also embarked on research into the use of Information and Communication Technology (ICT) in assessment and will use ICT in the examination of Mother Tongue Languages (B syllabuses) starting with the 2013 Advanced Level examination.

Project Work

Project Work (PW) is a compulsory H1 subject for all pre-university students in Singapore. Curriculum time is set aside for students to carry out their collaborative interdisciplinary project tasks over an extended period of time within their first year of study in Junior College or Pre-university. The assessment tasks are designed to be sufficiently broad to allow students to carry out a project that they are interested in, while meeting the requirements of the tasks. Working in groups formed by the teacher, students undertake, brainstorm and evaluate each other's ideas while working on a project together.

PW is assessed in three components:

- a Written Report that shows evidence of the groups' ability to generate, analyze, and evaluate ideas for their project
- an Oral Presentation in which each individual is assessed on his/her fluency and clarity of speech, awareness of audience, and response to questions. The group as a whole is also assessed in terms of the effectiveness of the overall presentation
- a Group Project File in which each individual group member submits documents that show evidence of the individual student's ability to generate, analyze, and evaluate their preliminary ideas for a project, research material they gathered for their chosen project, and their insights and reflections on the project

Classroom teachers carry out the assessment of all three components of PW. They are trained to use the assessment criteria provided by SEAB. SEAB also specifies the achievement standards (through exemplar materials) and marking processes. Additionally, SEAB provides training and conducts annual briefing for internal moderators. SEAB also conducts external moderation to ensure consistency in scoring across schools.

Through PW, students acquire self-directed inquiry and knowledge application skills, plan their schedule and delegate tasks among group members, interact and collaborate with teammates of different personalities and abilities, and gather and evaluate primary and

secondary research materials. These skills and processes reflect life skills and competencies to prepare them for the future workplace.

The Use of Source-Based Case Study and Questions to Assess Higher-Order Thinking Skills in Upper Secondary Social Studies

Social Studies (as part of the Humanities curriculum) is a compulsory subject for all upper secondary Express and Normal (Academic) students.

The study of Social Studies prepares students in Singapore to understand the interconnectedness in the world they live in and appreciate the complexities of the human experience. Their study includes analysing issues on global interconnectedness and interdependence among world societies, and how to adapt to the changing world environment. Through this study and the understanding of the socio-economic development and governance of Singapore, students will have better knowledge on how to build and sustain a politically viable, socially cohesive and economically vibrant Singapore.

A key intent of the subject is the development of critical thinking skills – skills of critical enquiry, investigation and reflection. Students acquire the skills of constructing explanation, and evaluating information through making inferences, analysing evidence, comparing and contrasting views, and drawing well-reasoned and substantiated conclusions.

These skills are more evidently assessed through the Source-Based Case Study which requires students to answer source-evaluation questions based on unseen sources / information, for which answers could not be rehearsed. Each case study is on a specific issue which is controversial and/or debatable. Students are expected to use their knowledge, skills and conceptual understanding developed during the course to help them use the given sources to answer the questions.

Aligning the Use of Information and Communication Technology (ICT) in Teaching, Learning and Assessment of Mother Tongue Languages (MTL)

To nurture active learners and proficient users of Mother Tongue Languages, the 2010 Mother Tongue Languages (MTL) Review Committee had made several recommendations to enhance the teaching and learning of MTL in schools. One of the key recommendations was to use Information and Communication Technology (ICT) to enrich students' learning.

In implementing the recommendation, a variety of ICT-based resources, including the iMTL portal, have been developed to support ICT-based teaching and learning. Through authentic language tasks and interactive features, the iMTL portal is designed to enhance

students' oral and written interaction skills and supports students using MTL as a living language.

To align learning and assessment, computer-based writing will be introduced in Paper 1 (Functional Writing) of the MTL Syllabus B examination in the 2013 Advanced Level examination, where students will be required to compose either an email response or a blog entry. Students will key in their responses on a laptop.

Short video clips will also be introduced as stimulus in the 2014 MTL Syllabus B Ordinary Level and Advanced Level Oral examinations, so as to provide more engaging and authentic contexts for oral conversation. Students will have a conversation with the oral examiner after viewing a short video clip depicting various real-life situations such as school events and weekend activities, instead of using pictures.

Computer-based writing and video stimulus for oral examinations are new modes of assessment. These will align the national examinations with the increasing use of ICT in our education system.

Success Factors

The key success factors for the high quality of examinations in Singapore include: the high degree of professional integrity of SEAB staff, and enhancements made to boost their capability and capacity the innovative way of designing appropriate multi-modes of assessment that are fit-for-purpose – such as Coursework, Oral, Listening Comprehension, Project Work, Source-based Questions, Science Practical Assessment and Field Work in Geography stringent processes put in place to ensure that question papers of high quality are produced, and that there is consistent and accurate marking of exam scripts rigorous, efficient and well-managed processes in place to ensure the smooth running of examinations maintaining standards over time collaboration with local and international examination boards, education ministry and institutions. SEAB also participates in international conferences on assessment, and hosts / visits other examination boards to learn and exchange ideas, and to share expertise.

Trends and Key Challenges

In Singapore, trends in national assessment in education revolve around the use of Information and Communications Technology (ICT), the move towards assessing higher-order thinking skills and 21st century competencies, and the need for greater communication

and stronger collaboration with partners in education – school practitioners, MOE personnel, examiners and professionals from higher institutions of learning.

The challenges of SEAB are intertwined, upholding the integrity of national examinations while staying relevant in a dynamic educational landscape and meeting the growing expectations of a more sophisticated and vocal public.

Besides the continuing challenge to uphold the integrity and public confidence in the national examinations, a key challenge over the next few years for SEAB is to use Information and Communications Technology (ICT) to improve the efficiency of the administration of examinations and to develop and deliver national examinations that are in alignment with the changes in student profile and curriculum delivery in schools, and which uses ICT to add value to assessment.

Another key challenge is raising the assessment literacy of school teachers.

Korea

(Republic of Korea)

Name of Organization

Korean Educational Development Institute (KEDI) & Korea Institute for Curriculum and Evaluation (KICE)

Korean Educational Development Institute (KEDI)

35, Baumeo-ro 1-gil, Seocho-gu, Seoul (Umyeon-dong), Korea

Telephone: 82-2-3460-0216, 0217, Fax: 82-2-3460-0156, E-mail: international@kedi.re.kr

Korean Educational Development Institute (KEDI) and Korea Institute for Curriculum and Evaluation (KICE) are the representative research institutes for national education in Republic of Korea, which collaborate closely with the Ministry of Education at the central governmental level. First, KEDI is a governmental institute for educational policy research and its role is to suggest the direction and vision of the national education system of Republic of Korea. Second, the major missions of KICE are to develop and improve national curricula for elementary and secondary schools of the country and to conduct academic assessment at the national level such as National Assessment of Educational Achievement (NAEA) and College Scholastic Ability Test (CSAT). At the same time, KEDI and KICE collaborates closely to provide a holistic picture of the country's educational issues having built an intimate partnership to better lead the development of education of Republic of Korea. For example, KEDI conducts longitudinal research to examine the academic achievement and growth of students and the efficacy of schools and education policies nationwide and analyzes the result of the panel study in relation to the scores of NAEA and CSAT.

Many countries of the world have established various national assessment systems for their elementary and secondary education in order to ensure their educational competency. Republic of Korea is not an exception: Republic of Korea has adopted NAEA as a major quality assurance mechanism for its education systems since 1998. The function of NAEA has been expanded as it enlarged its sampling size from highly selective samples to the population since 2008 for the establishment and improvement of national 'Support system for basic academic ability.' This change resulted in the increase of the role of NAEA as well: from solely measuring the quality of the nation's education to ensuring and supporting the accountability its public education. At this point, the progress of NAEA is discussed first.

Transition process of NAEA

NAEA was initiated in 1998 to conduct a national level assessment on core subjects bi-annually and operated until 2000. Since 2001, the subjects and contents of the assessment have been expanded to the request of the Ministry of Education and Metropolitan and Provincial Offices of Education and maintained its forms until recently. However, there were necessary modifications as time went on, particularly to improve the assessment tools, the process and administration of evaluation, and reporting procedures. Also, responding to the increasing request of the accountability in public education, the scope of NAEA expanded into the population survey, which surveyed limited numbers of sample originally. The government intended to identify target schools with concentrated population of underachieving (below basic level) students to provide intensive support based upon the data collected through the population survey. By doing so, the government tried to improve the basic scholastic ability of its students and accountability of its public education system. Furthermore, the legal ground has been established for the enhancement of accountability in public education as 'Special Acts on the Information Disclosure of Educational Institutions' was passed in 2008.

Table 1: Transition process of NAEA

Year	Characteristics
1998-2002	• Basic planning and sampling
2003-2006	• Methodological improvement: Achievement level setting, Assessment equalization, Systemizing sampling procedure
2007-2008	• Quantitative expansion: Preparation for the population survey via increasing sample size
2009-Present	• Transition to population survey • Official announcement for the duty of information disclosure of assessment results

Assessment Model

NAEA assessment model reflects the organic relationship between the academic achievement level of students and their educational contexts. The model indicates that national school curricula are implemented in school and classroom, and the academic achievement of students is the results of the implementation. Meanwhile, the achievement of student has a close relationship with each student's learning context which is consisted of individual characteristics such as family backgrounds, attitude, interest, and effort. Therefore, it is essential to understand not only the results of learning but also the mechanism of and its impact on learning.

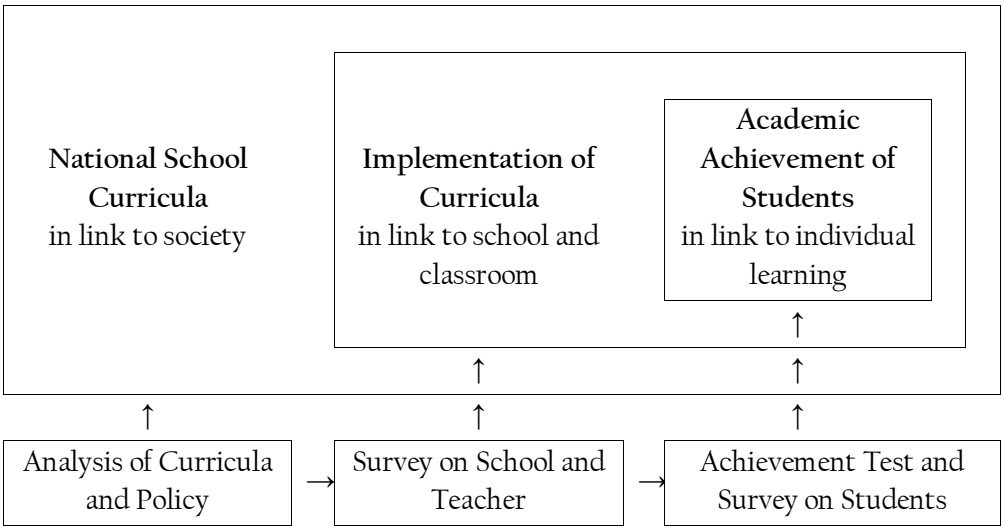


Figure 1: National Assessment of Educational Achievement Model

Assessment Design

Assessment Tools

NAEA carries out curricula-based subject-matter assessment according to the basic conceptual model as well as surveys on students, teachers, and principals to investigate variables related to educational contexts. Subjects such as Korean, math, and English are tested with multiple choice and open-ended questions to examine whether students properly learned the contents and achieved goals set by the national curricula.

The questionnaire for students includes questions on their family backgrounds, school life, after-school activities, and educational and psychological characteristics. The questionnaire for principals contains questions on the organizational and financial status of school, characteristics of principal, students and staffs, and curriculum and school atmosphere. Then, the one for teachers includes questions on personal backgrounds,

teaching experiences, job satisfaction et al.

Target Population

Until 2012, NAEA targeted 6th graders, 9th graders, and 11th graders, but 6th graders are excluded from this year (2013) to eliminate the excessive academic stress that would put on primary school students and to increase the joy of learning at school.

Timeline

NAEA is conducted at the end of the first semester. This is to secure the time for supplementary education for underachieving students and to prevent deficits in teaching by having teachers grade the open-ended questions during the break.

Assessment and Grading Procedure

NAEA adopts a standardized procedure for the assessment across the country to ensure collecting high-quality data: The procedure is managed by principals of each school but in the same manner. Test results are securely archived and grading is processed under the supervision of KICE. In-service teachers are designated as graders to assess strictly adhered to the rubrics. Open-ended items are graded by multiple graders, and a standardized grading program has been developed for on-line scoring to ensure objectivity and fairness.

Data Collection Design for Equating

NAEA includes designs for test equating to identify annually a nationwide trend of students' academic achievement. Thus, NAEA operates two types of test in alternate forms (Type A and B) for every subject since 2005. Type A is for the students of the pertinent year. Type B is also for the students of the pertinent year but contains questions in common with the next year's exam for test equating and these questions are not disclosed to the public. After the assessment became a population survey, new equating data collection design has been established as four types of exam per subject have been developed and implemented while maintaining the appropriate sample size (approx. 1%) to stabilize the results of the equating.

Development of Assessment Tools

Developing assessment tools in NAEA proceeds by an analysis of curriculum per

subject according to the goals of assessment, modification and improvement in achievement standards and, then, constructing appropriate test papers for the new standards.

In other words, NAEA assessment tools are developed by 1) reviewing the newly developed achievement standards drawn from the analysis of national curricula, 2) creating test papers development and reviewing manuals, 3) designating and training test papers designers, and 4) planning the test papers design and, finally, 5) the test papers are confirmed after the crosschecks of the designers and reviewers of the test papers.

When developing test papers, the level of difficulty and the discrimination power are taken into consideration. In NAEA, raw scores are converted into scaled scores, then, the scores are classified into four different achievement levels by the cut off scores. To understand the characteristics of students at each level, diverse questions are adopted. Also, assessment tools maintained its consistency in its number of questions and ratio of multiple choice and open-ended questions for understanding annual changes.

The designers and reviewers of the assessment are selected across the country among the elementary and secondary school teachers and college professors who are experienced in test papers design. Preliminary testing is not conducted any more for a security reason after NAEA became a population survey.

Assessment Results

Achievement Level and Score

NAEA has been providing the diagnosis of achievement level which accurately reflects the current academic level of the student and school. NAEA is a criterion-referenced assessment which examines the extent of goal attainment. The achievement level of student diagnosed in the assessment is classified into superior level, average level, basic level, and below basic level. The general characteristics of achievement level are defined by NAEA as follows.

Table 2: General Characteristics of Achievement Level

Achievement Level	Characteristics

Superior	Student **mostly (above 80%)** understands the materials that are expected to be accomplished by the pertinent class.
Average	Student understands **majority (50-80%)** of the materials that are expected to be accomplished by the pertinent class.
Basic	Student **partially (20-50%)** understands the materials that are expected to be accomplished by the pertinent class.
Below Basic	Student fails to reach 'Basic' level.

Four achievement levels are set in align with modified Angoff Method which is based on the NAEA in 2003 and attainment of curriculum understanding.

According to the modified Angoff Method, cut off scores are set as anchor points to classify achievement levels until 2009. New achievement standards are established since 2010 as the new curriculum and national-level testing were implemented, and the achievement level is computed and reported by the new standards since 2010 NAEA.

NAEA investigates the annual change in achievement rate which is computed from raw score to scale. To discover changes in achievement of each year, various types of exam that measure the same ability should yield comparable results. Thus, primary score scale rather than raw score should be particularly developed and utilized. In NAEA, scale is developed and utilized via non-linear transformation of raw score until 2009, and the modified scale is utilized since 2010. This scale is based on the raw score which is the composite points from every test paper. The scale is produced when the raw score is converted through arcsine transformation, then through linear transformation to gain the mean value and standard deviation.

School Improvement

NAEA has been providing school improvement from 2011. Value-added model from National Curriculum Assessment (NCA) of the United Kingdom was applied to develop school improvement indicator, and schools strived to compute and disseminate how much students improved their academic achievement. Therefore, school effect can be better understood by the academic level indicators.

Moreover, NAEA results is combined with the survey results, so that the organic relationship of achievement level and education context is analyzed. This is to help regional and national policy making, classroom-based learning enhancement, and career counseling.

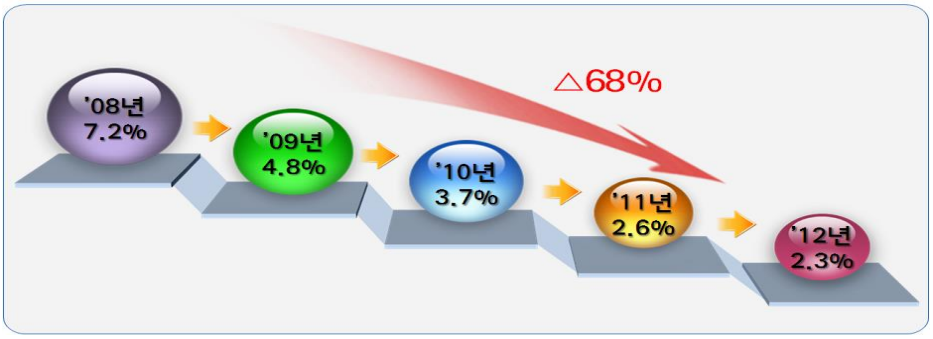
Conclusion

As the interest in NAEA rises, various issues are highlighted. Issues are such as pros and cons on national-level testing method and disclosure of assessment results, concerns for limping in classroom-based education due to the collaborated evaluation of school and Metropolitan and Provincial Offices of Education, and pros and cons on efficacy of achievement enhancement.

Table 3: Highlighted issues on NAEA

Pros	Issue	Cons
National-level testing is necessary for investigation of individual achievement	Testing Method	Sample testing can investigate regional academic level
Strengthen the responsibility of teacher and school of the underachieved student	Assessment Results Disclosure	Imposing hierarchy of schools and intensification of competition
Necessity for improvement in administration of Metropolitan and Provincial Offices of Education	Limping in Classroom-based education	Inevitable limping due to merit-based payment in school and evaluation of Metropolitan and Provincial Offices of Education
Decrease in the number of underachieved student	Efficacy of Achievement Enhancement	Temporary enhancement due to repetitive problem solving

However, the government strongly enforces NAEA as asserting that disclosure of assessment results protects parents' right to be informed and national-level testing accurately reflects the achievement level of all students. Moreover, the government accomplished the improvement in academic ability by supporting underachieved students based on the assessment results.



※ Underachieved : 2.3%('08) → 1.5%('10) → 0.7%('12)

6th graders Underachieved					
9th graders	: 10.2%('08)	→	5.6%('10)	→	3.3%(12)
Underachieved 11th graders	: 8.9%('08)	→	4.0%('10)	→	3.0%('12)

Figure 2: Annual change in the underachievement rate in basic academic ability among elementary and secondary schools

Korean students show high achievement level in both TIMSS (Trends in International Mathematics and Science Study) and PISA (Programme for International Student Assessment) that are international comparative studies of achievement. PISA 2009 indicates that Korean students of age 15 rank the highest achievement level by 1st~2nd place in reading, 3rd~6th place in math, and 2nd~4th place in science. Especially, reading competency showed a statistically significant increase during the last 9 years, and math and science competency also showed an increase. TIMSS 2011 indicates that 4th graders rank 2nd place in math and 1st place in science; and 7th graders rank 1st place in math and 3rd place in science. This is an improvement compared to the precedent term. The number of top class students increased whereas the number of underachieved students decreased. This outcome is produced through a prominent quality control system such as NAEA. Korea expects to further develop education by collaborating with other Asian countries joined in this event.

KEDI (Korean Educational Development Institute)

Vision

World-class educational policy research institution aiming for a brain power nation

Mid-and Long-Term Developments Goals

- Suggest vision for future education and improve solution capabilities for problems

- Strengthen idea bank functions for Korean and global community's education policies
- Improve the international competitive power in education policy research

Policy Research Directions

- Bolster research efforts for a solution to private education, stabilization of public education, and improvement of advanced education competitiveness
- Strengthen research on proactive educational welfare policies for a tolerant society
- Reinforce research on education policies to accomplish enhanced international status and role

Five Management Targets

Policy Navigation: Strengthen Educational Policy Navigation Function

- Suggest vision for Korea's education and strengthen leading role for national education policies
- Diagnose educational problems and issues and establish countering system

Research Development: Bolster Organ's R & D Capabilities

- Provide conditions to reinforce professionalism
- Develop human resource administration system
- Construct management system for active employment of external workforce resources

International Networking: Stabilize Operating System for Global Educational Research Collaboration

- Perform role of bridge between advanced countries and developing countries via educational research collaboration
- Increase official development assistance support for developing countries through cooperative educational research
- Construct physical infrastructure to promote international education collaborative enterprises

Demand Orientation: Raise Satisfaction Level of Educational Policy Consumers

- Expand communication channels with policy consumers at research and business planning phases

- Reflect various opinions of policy consumers during research and business execution stages
- Strengthen abilities to increase favorable research and business outcomes
- Elevate KEDI's global brand

Energetic Culture: Build Culture and Environment for Peer Growth Groups

- Build creative and dynamic research environment
- Foster mutually cooperative group culture

Organization Structure


KEDI PRESIDENT
Internal Audit
Planning Division
Office of Research Planning
Office of Budget Planning
Office of Public Relations
Office of Information System and Library
Office of Comptroller
Building Relocation Bureau
Educational Policy Research Division
Office of Primary and Secondary Education Research
Office of Higher and Lifelong Education Research
Office of Educational Policy Network Research
National Research Center for Gifted and Talented Education
Global Education Research Division
Office of Global Education Research
Office of International Education Development and Cooperation Research
Office of International Relations and Cooperation
Educational Survey and Statistics Research Division
Office of Survey and Data Analysis
Office of Educational Institution Evaluation Research
Center for Educational Statistics
Education Field Support Research Division
Center for Open Secondary Schools
Educational Facilities Research and Management Center
Management Support Division
Office of General Affairs and Personnel Management
Office of Finance and Accounting
Office of Facility Support
Education Support Center for North Korean Migrants
Center for Free-semester Program
Center for Local Educational Finance Research
Departmentalized Classroom System Research & Management Center
Creative School Management Support Center
Center for Self-directed Learning Admission System
School Violence Prevention Research Center
Office of the President

Taiwan

(Republic of China)

Name of Organization

Ministry of Examination

1-1 Shihyuan Rd., Taipei 11602,

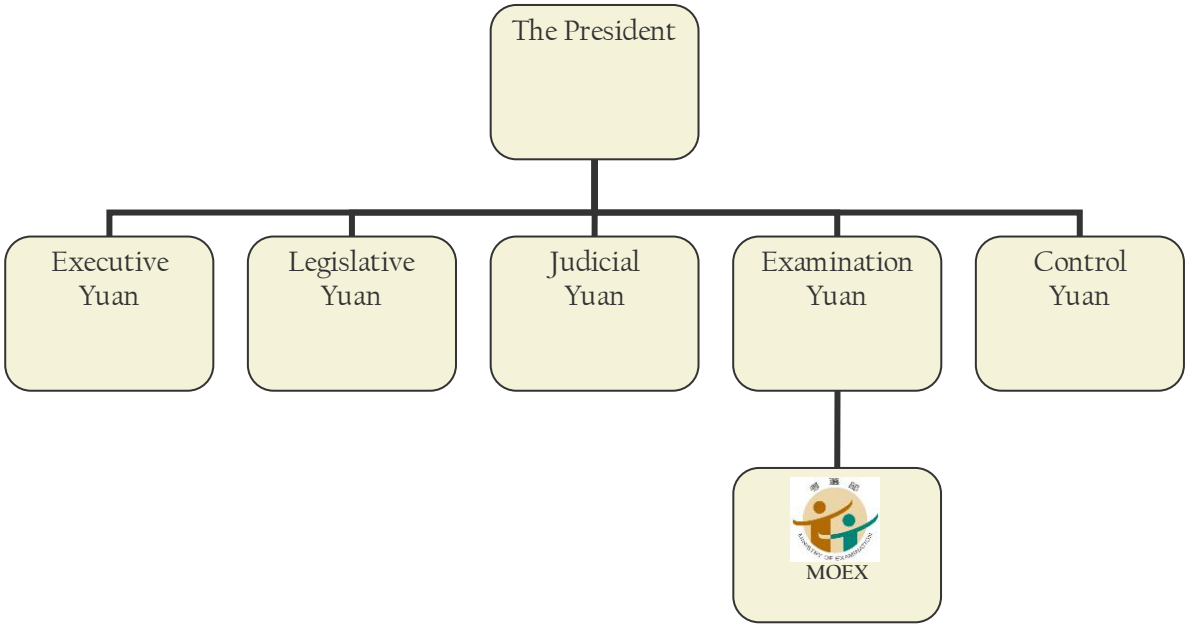
Taiwan (R.O.C.)

Website: http://www.moex.gov.tw

Minister

Dr. Dung Bau-Tscheng

Organization of the Central Government



Mission

The Ministry of Examination

- Administer national examinations
- Supervise contract examinations

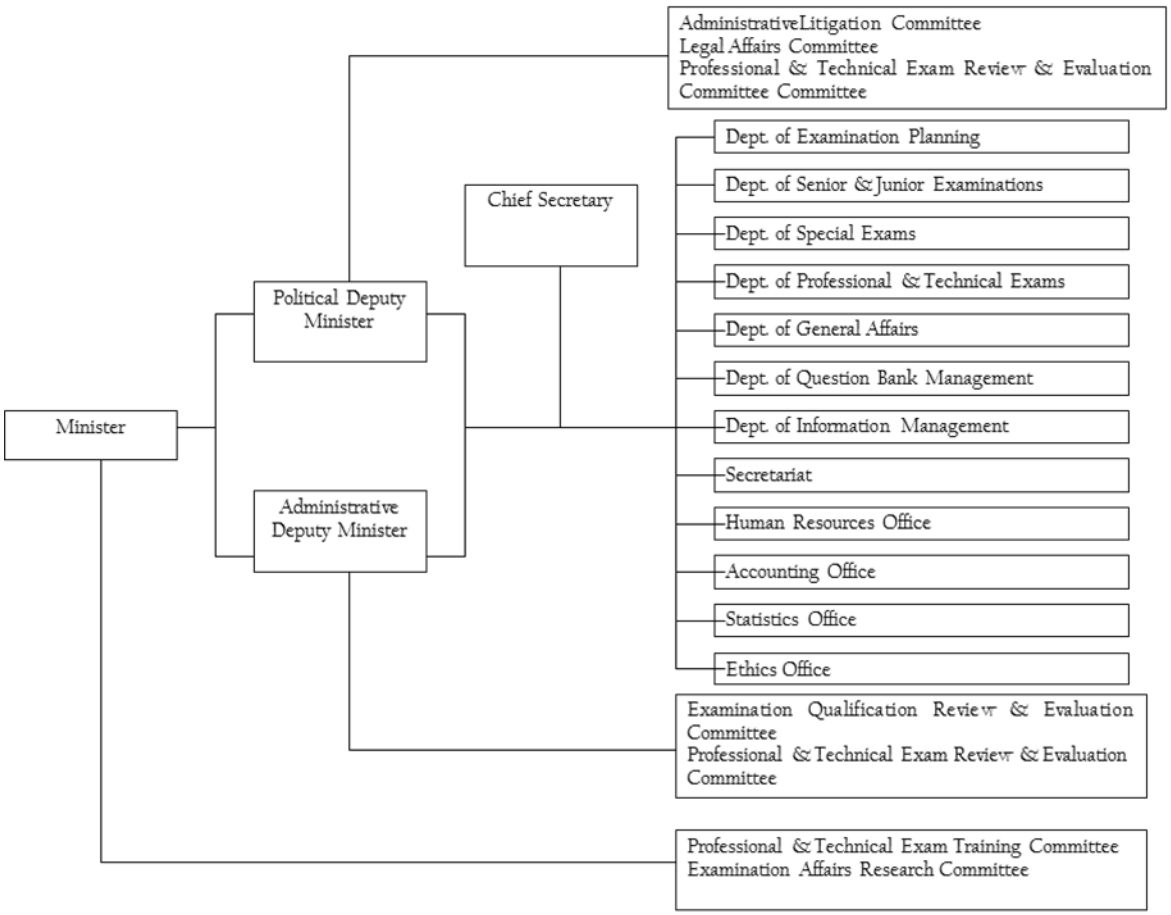
Vision

To select outstanding talents and increase national competitiveness

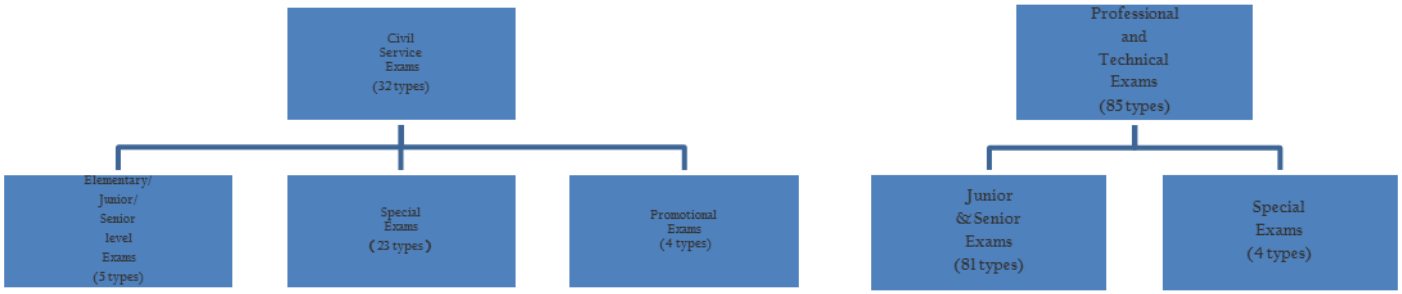
The Ministry of Examination

- Construct an examination and selection system that meets international standards.
- Establish a competence index that corresponds to employment requirements.
- Utilize information technology to increase exam administration efficiency.

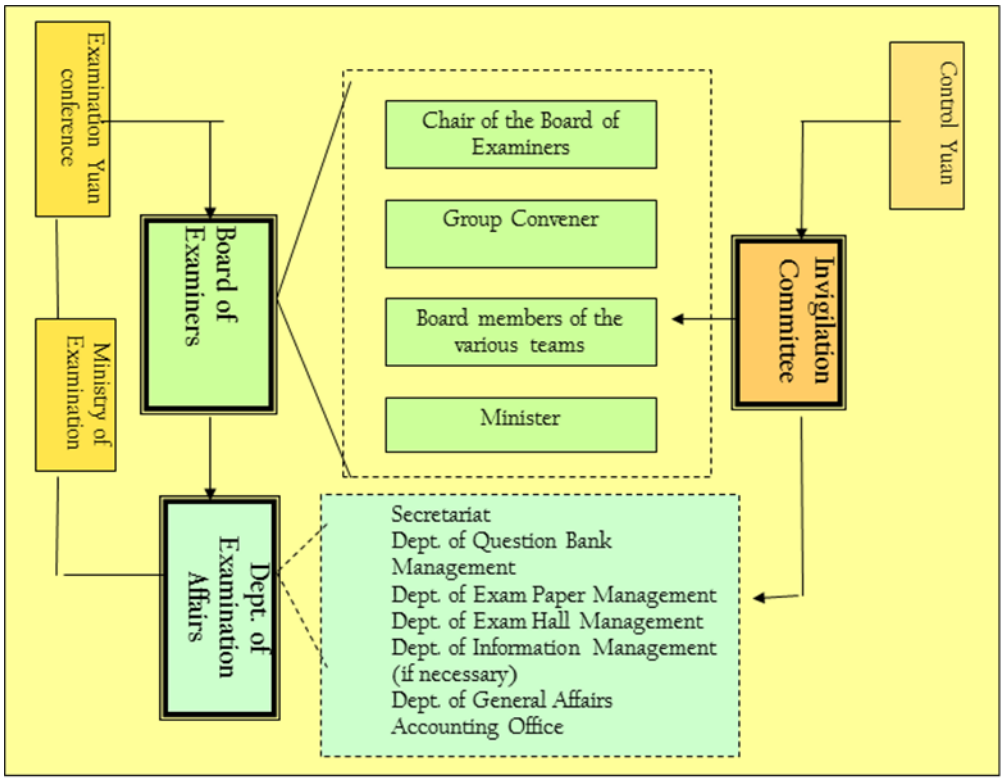
Organization Structure



Development of National Testing and Examination System



Examination Structures



Conducting Procedures

Stages	Procedures		
	The Ministry of Examination reports to the Examination Yuan for approval to hold exams ↓ Public exam announcement by the Ministry of Examination		
	Board of Examiners	Invigilation Committee	Dept. of Examination Affairs
	Set up Board of Examination ↓ 1st board meeting ↓ Question formulation ↓ Examination ↓ Grading /process clarification requests ↓ 2nd board meeting ↓ Release results	Rotational appointment of invigilators ↓ Supervision and safeguarding of sealed name lists ↓ Supervision of the printing, sealing and distribution of examination papers ↓ Supervision and counting of sealed exam papers ↓ 2nd meeting of the Invigilation Committee and Board of Examiners for examinees' grade evaluations ↓ Supervision of the seal breaking and verification of corresponding examinee numbers ↓ Supervision of the result release and announcement of qualifiers	Set up Dept. of Exam Administration ↓ Accept applications and start evaluations ↓ Arrange exams halls; mai exams passes; produce exam papers and sea examinee name lists ↓ Safeguard sealed name lists ↓ Enter exam quarters and print exam questions ↓ Supervise exam halls and seal completed exam papers ↓ Grade papers; handle clarification requests; calculate and register marks ↓ Break seal on examinee name lists and verify numbers ↓ Release results and mai report cards
	Verification of exam grades ↓ Prepare exam documentations and other related documents ↓ Request and deliver qualification certificates		

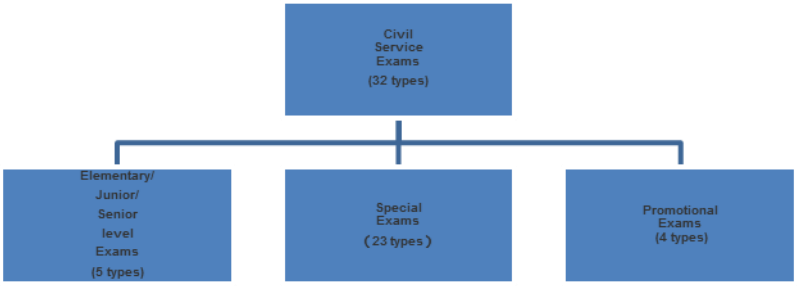
Examination Standards

a. Norm-referenced

1. Civil Service Examinations

2. Vacancy is determined by the annual needs of employing agencies.

3. Passing criterion is determined by vacancies, and final scores should be no less than 50.

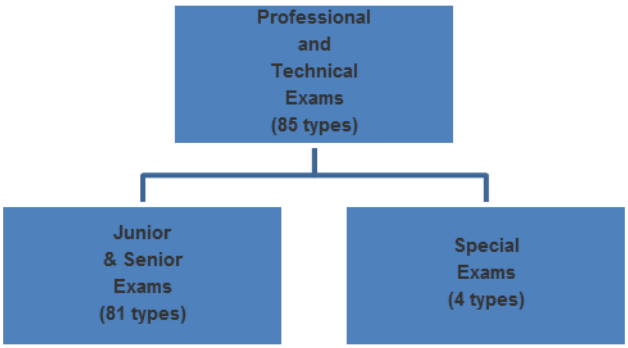


b. **Criterion-referenced**

1. Professional and Technical Examinations

2. Three types of passing rules

- pass each exam subject
- achieve a total average score of no less than 60
- a specific percentage of the total number of exam takers



Testing Procedure

a. Item Writers

1. Who

- Scholars: professor, researchers
- Practitioners
- Representatives of employing agencies
- About 28,000 records in human resource database

2. How to recruit

- Select from human resource database
- Invite participation

3. How to Train

- Hold seminars on item writing

b. Item Validation

- Set up a blueprint of each exam subject with specialists and employing agencies
- Use the blueprint to guide the item writing process

c. Security Procedure

- IT security for electronic item bank includes identification, secure transmission, data integrity and encryption, etc.
- The entire examination production process is carried out in secure facilities to ensure the absolute confidentiality

d. Item Analysis

- Analysis is performed for each exam subject after examination
- Analysis focuses on item difficulty, discrimination and relative statistic
- Results are used for future revising

Use of Results

a. **Civil Service Exams**
- To produce a civil service workforce
- For incumbent to qualify for a promotion

b. **Professional and Technical Exams**
- To obtain a qualification certificate and become eligible for a professional and technical position

Innovation/ The Use of Technology

Item Bank

a. **History**
- Since April 2003
- Established electronic item bank offline in a standalone, isolated and secure location

b. **Characteristics**
- Sufficient item inventory in the bank
- Friendly interface and online access
- Item similarity comparing
- Secure environment

c. **Secure environment**
- Identification

Account / password

Natural Person Certificate (NPC)

- Secure transmission through private tunnel

End to end

Transmit data with encryption

- Store data with encryption.
- Non-repudiation with electronic signatures

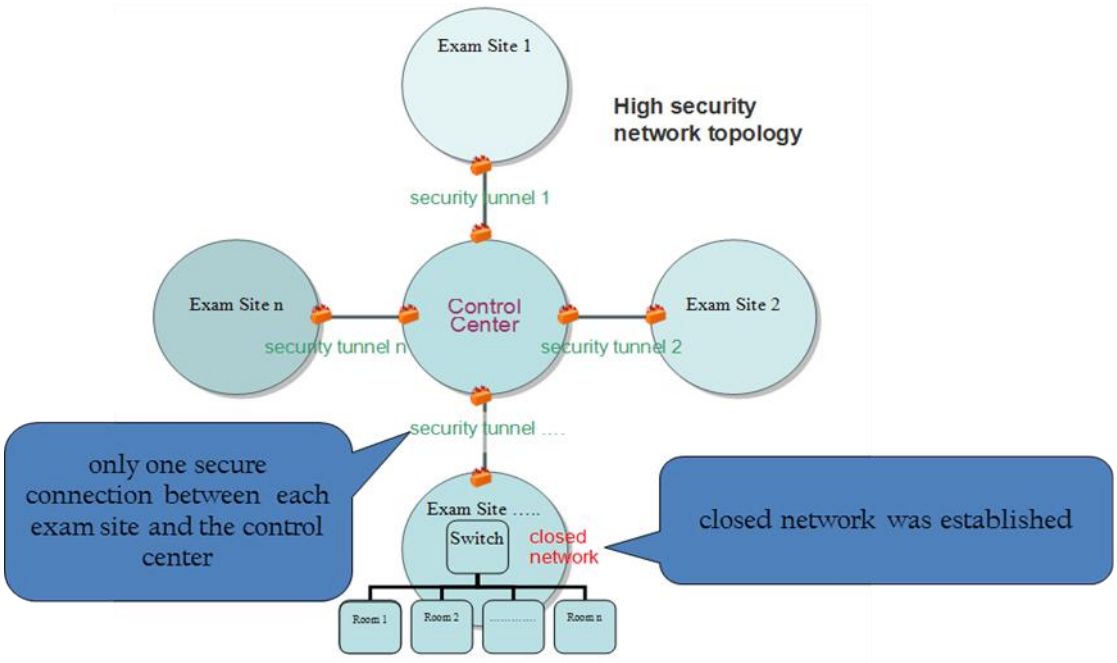
Computer-Based Test

a. **History**

- Since April 2004 , for seafarers
- Extended in 2007, till 2013, 10 exam categories

b. **Characteristics**

- Certified test site
- Instant scoring
- Reducing cheating cases
- High security
- High mobility at special events
- Automatic control of exam flow



Online Grading

a. **History**

- Since July 2012
- 8-3-2 Characteristics
- High efficiency
- Reduced efforts and costs
- Improved reliability
- Promoted nation-wide

Obstacles

1. Examination subjects and categories are numerous and complex
2. Specialists are not full-time staff, and do not have sufficient knowledge of assessment
3. Many stakeholders are slow to accept IT, causing difficulty in promoting online writing, reviewing and grading.
4. Exam takers' uneven proficiency with IT, "the digital divide" affects the effectiveness of Computer-Based Test

Issues/Trends

a. Item and human resources banks

- How to recruit qualified specialist to maintain a robust item bank

1. Establish exam result feedback system
2. Promote online writing, online reviewing
3. Offer more assessment trainings
4. Provide regular evaluation of item writers' work products

b. Examination methods and techniques

- How to ensure effective assessment

1. Standardize and structure oral examinations
2. Promote on-site exams and physical test
3. Increase use of Computer-Based Test

4. Promote online grading

c. Interdisciplinary governing cooperation

- How to tightly link exam to education, training and employment

1. Professional and technical licenses as public services
2. Introduce OSCE for Medical Licensing Examination
3. Build more progressive competence-based selection

d. Increase quality of service

- How to make progress in providing service

1. Promote paperless process for item clarification
2. Increase number of exam sites for greater geographical balance
3. Maximize utilization of social networks for instant interaction and information exchange

Thailand

Name of Organization

National Institute of Educational Testing Service (Public Organization)
35th - 36th Floors, Phyathai Plaza Building
128 Phyathai Road, Rachathewi,
Bangkok 10400 Thailand
Telephone: (66 2) 217 3800
Fax: (66 2) 219 2996
Email: webmaster@niets.or.th
Website: www.niets.or.th

Director

Associate Professor Samphan Phanphruk, Ph.D.

Vision

To be a world-class educational testing service center.

Mission

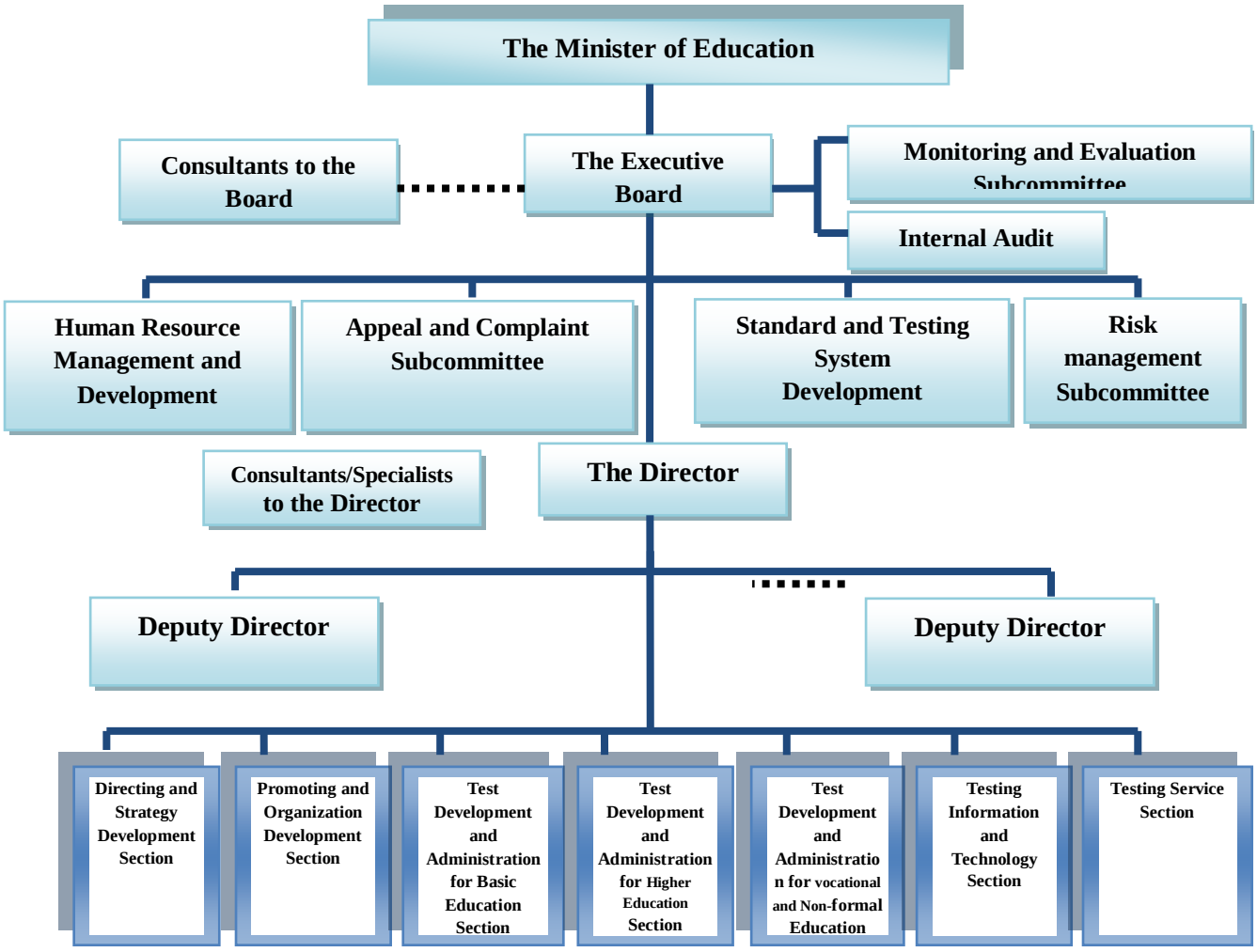
a. To organize the systems and methods of testing and develop instruments for measuring and accessing in accordance with educational standards of learners.
b. To organize national education testing and assessment as well as to cooperate and support testing to schools and educational service area offices.
c. To organize educational testing and provide testing services concerning abilities, academic and vocational standard assessment for credit transfer or between educational systems.
d. To conduct research studies and disseminate innovative practices in educational testing as well as techniques for educational measurement and evaluation.
e. To become a center for educational testing, supporting and providing test results to various organizations, both domestic and international.
f. To enhance and promote educational measurement and evaluation including training of the personnel in the field of measurement, testing and assessment, monitoring and assessing the quality of graduates, and certifying the measurement and evaluation centers in terms of systems, methods and instruments.

g. To serve as a center of cooperation in the field of educational measurement and evaluation at national and international levels.

Organization Structure

NIETS is under the Executive Board comprising ten members, i.e. the president, four appointed representatives from related government offices (Secretary-Generals of the Office of Basic Education Commission, the Office of Vocational Education Commission, and the Office of Higher Education Commission, and Director of the Office of National Education Standards and Quality Assessment (Public organization), four specialists, and the Director of NIETS as secretary. The organization chart is shown below:

NIETS Administrative Structure



Development of National Testing and Examination System

a. Basic Education

The development of the national testing and examination system at the basic education level in Thailand can be divided into four different periods[1]:

1) The first formal examination period conducted by the palace (1884 – 1890).

2) The national examination as exit examination period conducted by the Ministry of Education (1935 – 1977).

3) The school examination as the national examination period (1978 – 2011).

The first Ordinary National Education Test (O-NET) at the basic education level was conducted in the academic year 2005 and aimed at reflecting the quality of the basic education level.

4) The combination of the school examination (80 %) and the national examination (O-NET) (20 %) period (2012 – present).

In the near future, students will be assessed by the combination of scores earned from the school examination (50 %) and the national examination (O-NET) (50 %) in which all aspects of desirable competencies, literacy and characteristics will be tested.

Tests and Objectives	Development
O-NET ***(Ordinary National Educational Test)*** <u>Objectives</u> 1. To test the knowledge and thinking ability of Grade 6, 9 and 12 students according to the Basic Education Core Curriculum B.E 2551 (A.D. 2008). 2. To assess their academic proficiency according to the Basic Education Core Curriculum B.E 2551 (A.D. 2008). 3. To provide information to the schools to improve their teaching and learning activities. 4. To evaluate the quality of education at the	***Grade 6 (Prathom Suksa 6)*** The test was first given to Grade 6 students in the academic year 2007 in 3 subjects, namely (1) English, (2) Thai language and (3) Science. In the academic year 2009, all 8 subjects as required in the core curriculum were given, that is, (1) Thai language, (2) Mathematics, (3) Science, (4) Social Studies, Religion and Culture, (5) Health Study, Physical Education, (6) Arts, (7) Occupations and Technology, and (8) Foreign languages. ***Grade 9 (Matthayom Suksa 3)*** The test was given firstly to Grade 9

[1] Somwung Pittiyanuwat, 2013, *Development of National Education Testing and Education Quality Assurance at the Basic Education Level*. A study supported by Thailand Research Fund.

Tests and Objectives	Development
national level.	students in the academic year 2008 in 5 subjects, namely, (1) Thai language, (2) Social Studies, Religion and Culture, (3) Mathematics, (4) Science,(5) Foreign languages. All 8 subjects were given, that is, (1) Thai language, (2) Mathematics, (3) Science, (4) Social Studies, Religion and Culture, (5) Health Study, Physical Education, (6) Arts (7) Occupations and Technology, and (8) Foreign languages in the academic year 2009. ***Grade 12 (Matthayom Suska 6)*** The test was given first to Grade 12 students in the academic year 2005 in 5 subjects, namely, (1) Thai language, (2) Social Studies, Religion and Culture, (3) Foreign languages, (4) Mathematics and (5) Science. All 8 subjects were given (1) Thai language, (2) Mathematics, (3) Science, (4) Social Studies, Religion and Culture, (5) Health Study, Physical Education, (6) Arts, (7) Occupation and Technology, and (8) Foreign languages in the academic year 2007. ***Remarks***: *- Academic year 2005 refers to the period from May 2005 to April 2006.* *- Academic year 2007 refers to May 2006 -April 2007.* *- Academic year 2008 refers to the period from May 2007 to April 2008.* *- Academic year 2009 refers to the period from May 2009 to April 2010.*

Tests and Objectives	Development
N-NET ***(Non-Formal National Educational Test)*** **Objectives** 1. To test the knowledge and thinking ability of non-formal education students according to the Non-Formal Education curriculum of the year 2008. 2. To assess their academic proficiency according to the Non-Formal Education Curriculum of the year 2008. 3. To provide information to the schools to improve their teaching and learning activities. 4. To evaluate the quality of education at the national level. 5. To assess their achievement, ability and skills needed for further study after their completion of each level.	It was given for the first time in the academic year 2011 (on February 2012) in 2 levels; Lower Secondary Education and Upper Secondary Education only once a year. In 2012, it was given twice a year in each academic year, around February and August (subject to change). In 2012 (on August 2012), 3 levels of the test were given, namely, (1) Primary Education, (2) Lower Secondary Education and (3) Upper Secondary Education. Five subjects domains were tested, namely, (1) Learning Skills, (2) Basic Knowledge, (3) Occupations Skills, (4) Life Skills and (5) Social Development Skills. ***Remarks:*** *- Academic year 2011 refers to the period from May 2011 to April 2012.* *-Academic year 2012 refers to the period from May 2012 to April 2013.*
N-NET (***Credits transfer and equivalency program at the basic education***) **Objectives** 1. To test the knowledge and thinking ability of Non-Formal education students according to the Non-Formal Education curriculum of the year 2008. 2. To assess their academic proficiency according to the Non-Formal Education curriculum of the year 2008. 3. To provide information to the schools to improve their teaching and learning activities.	This new N-NET is established for credit transfer and equivalency program at the basic education employees on the jobs who want to earn their high school certificates. The students must be Thai, at least 20 years old with a minimum requirement of Grade 12 education. The students must not be in a regular non-formal education program. They must have been working for at least 3 years and must be living in the area that this program is carried on. This test was given twice for the first time in the academic year 2013 in 9 subjects,

Tests and Objectives	Development
4. To evaluate the quality of education at the national level.	namely, (1)Computer Use, (2) Mathematics in Daily Life, (3) SME Business Administration, (4) Democracy, (5) Community Administration and Management, (6)English Conversation or Chinese Conversation, (7) Thai for Communication, (8) Community Research and (9) Food Management for the Family and Community (English Conversation and Chinese Conversation were optional subjects from which the students had to choose one of them.)
I-NET ***(Islamic National Education Test)*** **Objectives** 1. To test the knowledge and think ability of students according to the Islamic Studies Curriculum B.E. 2546 (A.D. 2003) and Common Core Islamic Studies Curriculum B.E. 2551 (A.D. 2008) 2. To assess their academic proficiency according to the Islamic Studies Curriculum B.E. 2546 (A.D. 2003) and Common Core Islamic Studies Curriculum B.E. 2551 (A.D. 2008) 3. To provide information to the schools to improve their teaching and learning activities. 4. To evaluate the quality of education at the national level. Remark: *Academic year 2008 refers to the period from May 2007 to April 2008.*	In the academic year 2009, NIETS and 12th Office of Strategy Management and Integrated Education gave the test to the students at lower, intermediate and upper levels, 8 subjects each. They were (1) Al-Quran Explanations, (2) Words from the Prophet, (3) The Principles of Faith, (4) Religion Commandments, (5) Islamic History, (6) Islamic Ethics, (7) Bahasa Melayu and (8) Arabic Language. In the academic year 2010, the test was given to the students in the 3 southern provinces, namely Yala, Pattani and Narathiwat. In the academic year 2010, the test was also given to the students in 2 more provinces, namely Stul and Pattalung. In the academic year 2012, NIETS and the Ministry of Education gave the test on Islamic Studies to the students all over the country.
B-NET	It was given for the first time in the academic

Tests and Objectives	Development
(Buddhist National Educational Test) **Objectives** 1. To test the knowledge and thinking ability of students in the Common Phrapariyattithamma (Monks' School) Curriculum B.E. 2544 (A.D.2001). 2. To assess their academic proficiency of students in the Common Phrapariyattithamma (Monks' School) Curriculum B.E. 2544 (A.D.2001). 3. To provide information to the schools to improve their teaching and learning activities. 4. To evaluate the quality of education at the national level.	year 2012 at 2 levels: Lower Secondary Education and Upper Secondary Education in 3 subjects, namely, Buddha's History and Dharma Disciplines, Religion Practices and Pali Language. Remark: *Academic year 2012 refers to the period from May 2012 to April 2013.*

Vocational Education

Tests and Objectives	Development
V-NET ***(Vocational National Educational Test)*** **Objectives** 1. To test the knowledge and thinking ability of Vocational education students according to the Vocational Certificate Curriculum of the year 2002 (for the former) and the higher Vocational Certificate Curriculum of the year 2002 (for the latter). 3. To assess their academic proficiency of Vocational education students according to the Vocational Certificate Curriculum of the year 2002 (for the former) and the higher Vocational	It was first given in academic year 2010 to the students under the responsibility of the Private Education Council Office in fundamental education and fundamental subjects (interdisciplinary subjects) at 3rd year Vocational Certificate (Certificate of Vocational Education: CVE.3). It was given to the vocational education students under all jurisdictions at 3rd year Vocational Certificate (CVE.3) in different subjects. In academic year At Higher Vocational Certificate (HVC.2) the test was divided into different subjects or branches in 3 subject domains, namely, (1) Fundamental Abilities, (2) Learning Abilities

Certificate Curriculum of the year 2002 (for the latter). 4. To provide information to the schools to improve their teaching and learning activities. 5. To evaluate the quality of education at the national level.	and (3) Occupational Abilities. In 2013, the test was divided into subjects and branches. At CVE.3, 23 subjects were given whereas 96 subjects were given at HVC.2.

Higher Education

Tests and Objectives	Development
U-NET ***(University National Educational Test)*** Objectives 1. To test the knowledge and thinking ability of higher education students according to Thai Qualifications Framework for Higher Education. (TQF: HEd.) 2. To assess their academic proficiency of higher education students according to TQF. 3. To provide information to the universities to improve their teaching and learning activities. 4. To evaluate the quality of higher education at the national level.	Test development is in process.

Other Test Services

Tests and Objectives	Development
GAT/PAT ***(General Aptitude Test / Professional and Academic Aptitude Test)*** Objectives 1. To make use of the test results for university admission purpose.	GAT (General Aptitude Test) was divided into 2 sections: Section 1: Reading Writing, Critical thinking, Skill and Problem solving skill; Section 2: Ability in English communication. In terms of PAT (Professional and Academic

2. To make use of the test results as a part of the student selection process in Direct Admission System (depending on the requirements of individual universities).	Aptitude Test) was also divided 2 parts are: Part 1: Basic knowledge Part 2: Aptitude assessed. The test was given for the first time in the academic year 2009. It was then given 3 times a year (July, October and March) until 2010. In 2011, it was given only once Since 2012 and later, it has been given twice/year (October, March). NIETS cut off the July examination because it is in the middle of a semester session and thus the students have not yet completely graduated.
U-DAT ***(University Direct Access Test)*** **Objectives** To make use of the test scores for direct enrollment into a university	It was given for the first time in the academic year 2012 in 7 subjects, namely, (1) Thai Language, (2) Social Studies, (3) English Language, (4) Mathematics, (5) Physics, (6) Chemistry and (7) Biology. This test is for the students studying in Grade 12.
Testing of Teachers' knowledge Concerning Educational Measurement and Evaluation **Objectives** To evaluate teachers' ability in terms of evaluation and assessment knowledge.	It was given for the first time in the year 2010. It was then given 4 times a year.

Test/Examination Standards

In order to assure that the test results of any national educational examinations are accurate, reliable and trustworthy, NIETS has established its own test/examination standards as follows:

- ***Test development standards***. All test items and educational tests must be constructed systematically with clear and reliable steps.
- ***Test administration standards***. All tests must be administrated with transparency, fairness, acceptability and trustworthiness at national and international levels.

- ***Test printing standards***. All test printings must be monitored, controlled and secured in all clear steps, and all tests must be kept in a very confidential place with very tight security under an authority's responsibility.
- ***Test report and test result standards***. All test reports and test results must be written, checked, double checked, analyzed and reviewed by groups of experts in the field of educational measurement and evaluation to make sure that they are correct, suitable, fair and reliable.
- ***Testing personnel standards***. All supporting staff members and experts involving in testing must have suitable qualifications in the field of educational measurement and evaluation.

In order to properly implement the above test standards, NIETS also developed a manual for test and examination standards.

Testing Writing Procedure

Making test blueprint →	Making test item from test blueprints →	Print out for publication
↓	↓	↓
Specalists analyze curriculum	NIETS invites teachers from all departments to make test items.	NIETS officials make test templates
Specialists make indicator to measure each learning standard.	NIETS authorizes test development teams. Test developing team Makes test items.	The second test developing teams check the quality of tests.
Specialists and test developing teams co-operate to develop test blue print.	The first test developing team make test items from the test blueprint. The first test developing team discusses the test and considers whether (1) tests relate to what NIETS wants to measure (2) tests relate to objectives and learning standards (3) the difficulty levels are appropriate. The second test developing team (content specialists who are external reviewers) consider the first draft of the test which concerns about moral quality and correct answer key. Language and communication specialists consider and check whether language use is approapriate.	The second test developing teams make the answer keys.

Item Writers

Our test item writers are teachers and university instructors who have basic qualifications as follows:

- Having both knowledge and experience on the concerned curricula
- Having at least 5-year teaching experience in the concerned subjects
- Having teaching professional morals and etiquettes especially in trustworthiness and keeping confidentiality.
- Having sufficient time to devote to the project.
- Having no conflicts of interest, for example, not being a tutor in a coaching school or giving private lessons, having no connection with a coaching school or a tutoring institute, not being a writer of testing manuals or having a connection to such manuals, and having no sons, daughters, nieces, nephews or other relatives studying or aiming to enroll into an institute during the year.

Item Validation

NIETS has its own procedure according to testing standards to ensure that all the test items have content and construct validities (based on the curricula) as follows:

- **Test Blueprint Construction**

a. Groups of experts in the fields are invited to a meeting to analyze any concerned curricula (to study the essence and framework of knowledge in all eight learning areas aimed at in the curricula). A test blueprint is constructed and it is composed of learning standards, educational level standards, major topics and behavioral hierarchies.

b. Groups of experts in curriculum determined behavioral indicators (by analyzing educational level standards) to measure and evaluate each of such standards and select appropriate behavioral indicators for each subject.

c. Experts in curriculum and the first test item scrutinizing committee hold a meeting to consider, select and improve the test blueprint, behavioral indicators and content weights.

- **Test Item Construction**

a. NIETS asks for cooperation from different educational institutions to select and propose a group of teachers to construct test items.

b. Workshops on test item construction are held in the four regions of the country to make it possible for the teachers to have a share in writing test items for NIETS.

c. The first test item scrutinizing committee is appointed to scrutinize the test items mentioned in 2.2.

d. A test item assembly committee is appointed to compile test items according to the test blueprint. The main functions of this committee were as follows:

- Find out if each test item can test what is intended.
- Find out if each test item corresponds with a test objective and a learning standard.
- Consider if the difficulty level of each test item is as pre-determined.

e. The second test item scrutinizing committee (external high moral and ethics experts on content) is appointed to scrutinize the test items' content, language appropriateness, item bias and its answer key. They work independently from the first test item scrutinizing committee.

f. The test is then checked by language and communication experts to ensure the correctness and clarity of the language use.

- **Original Test Printing**

a. A group of NIETS printing personnel type the original test manuscript on special stencil papers.

b. The second test item scrutinizing committee checks the correctness of the original test manuscript printed on special stencil papers.

c. The second test item scrutinizing committee rechecks the correctness of the ready-to-use test and writes its answer keys.

Security Procedure

NIETS follows the 5 national testing standards, namely, (1) test development standards, (2) test administration standards, (3) test printing standards, (4) testing personnel standards, and (5) test reporting and result standards.

Item Analysis

NIETS analyzes its test items based on the Classical Test Theory and the Item Response Theory. Item statistic, Item parameter and Test statistic of each national education test were reported. Besides, experts in the fields, academicians and students were invited to criticize and comment on test items. Their criticisms and comments are analyzed and summarized and a report is sent to test item scrutinizing committees in order to improve the test items later.

Results

a. **The Results of National Education Test**

The results of national education test were reported in terms of Descriptive statistics by subject as shown in the following table.

Table 1: Number of Test Takers, Mean and S.D. of the O-NET test Scores of Grade 6, 9 and 12 students in the Academic Year 2012 by Subjects

Subjects	Levels of Education								
	Grade 6			Grade 9			Grade 12		
	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
Thai language	773,016	45.68	14.61	754,149	54.48	9.67	391,662	47.19	15.16
Social Studies Religion and culture	772,977	44.22	12.81	753,358	47.12	13.16	392,914	36.27	8.53
Foreign Languages	773,015	36.99	17.32	753,947	28.71	11.17	392,468	22.13	11.63
Mathematics	772,914	35.77	16.90	753,510	26.95	10.65	392,818	22.73	13.73
Science	773,009	37.46	12.68	752,903	35.37	11.70	391,524	33.10	10.37
Health Studies and Physical Education	773,011	54.84	15.52	753,084	56.67	11.47	391,145	53.70	9.93
Arts	772,666	52.27	14.08	752,893	43.31	10.04	391,111	32.73	8.61
Occupation and Technology	772,633	53.85	16.72	752,865	47.39	13.73	391,096	45.76	11.20

b. The Use of the Test Scores

Tests	The Use of the Test Scores
O-NET *(Ordinary National Education Test)*	The test results are used as follows: 1. For internal and external quality assurance of schools. 2. For exit decision. As of now, 20 percent of the test result is used as one component for exit decision in grade 6, 9 and 12.

Tests	The Use of the Test Scores
	3. For university admission purpose. 4. For improving the teaching and learning aspects of the school 5. For evaluating the students' achievement at the national level. 6. For other purposes, for example, research purpose.
N-NET ***(Non-formal National Education Test)***	The test results are used as follows: 1. For internal and external quality assurance of Non-Formal educational center. 2. For improving the teaching and learning aspects of the center. 3. For evaluating the students' achievement at the national level. 4. For other purposes, for example, research purpose.
N-NET ***(credits transfer and equivalency program at the basic education)***	The test results are used as follows: 1. For internal and external quality assurance of Non-Formal education centers. 2. For improving the teaching and learning aspects of the center. 3. For evaluating the students' achievement at the national level. 4. For other purposes, for example, research purpose.
I-NET ***(Islamic National Education Test)***	The test results are used as follows: 1. For internal and external quality assurance of schools 2. For improving the teaching and learning aspects of the schools. 3. For evaluating the students' achievement at the national level. 4. For other purposes, for example, research purpose.
B-NET ***(Buddhism National Education Test)***	The test results are used as follows: 1. For internal and external quality assurance of schools. 2. For improving the teaching and learning aspects of the school. 3. For evaluating the students' achievement at the national level.

Tests	The Use of the Test Scores
	4. For other purposes, for example, research purpose.
V-NET *(Vocational National Education Test)*	The test results are used as follows: 1. For internal and external quality assurance of vocational schools and institutes. 2. For improving the teaching and learning aspects of the school/institutes. 3. For evaluating the students' achievement at the national level. 4. For other purposes, for example, research purpose.
U-NET (University National Education Test)	The test results are used as follows: 1. For internal and external quality assurance of universities and higher education institutions. 2. For improving the teaching and learning aspects of universities and higher education institutions. 3. For evaluating the graduates' achievement at the national level. 4. For other purposes, for example, research purpose.
GAT/PAT *(General Aptitude Test/Professional and Academic Aptitude Test)*	The test results are used as follows: 1. For university admission purpose 2. For being a part of the student selection process in Direct Admission System (depending on the requirements of individual universities). 3. For use as evidence of achievement to apply for a job.
U-DAT	For being a part of the student selection process in Direct Admission System (depending on the requirements of individual universities).
Testing of Teachers' knowledge Concerning	To evaluate teachers' ability in terms of evaluation and assessment knowledge.

Tests	The Use of the Test Scores
Educational Measurement and Evaluation	

Sample Scores Report

a. Sample Student's O-NET Report

สทศ NIETS

สถาบันทดสอบทางการศึกษาแห่งชาติ (องค์การมหาชน)
National Institute of Educational Testing Service (Public Organization)

ผลการทดสอบทางการศึกษาระดับชาติขั้นพื้นฐาน (O-NET)
ชั้นประถมศึกษาปีที่ 6 ปีการศึกษา 2555

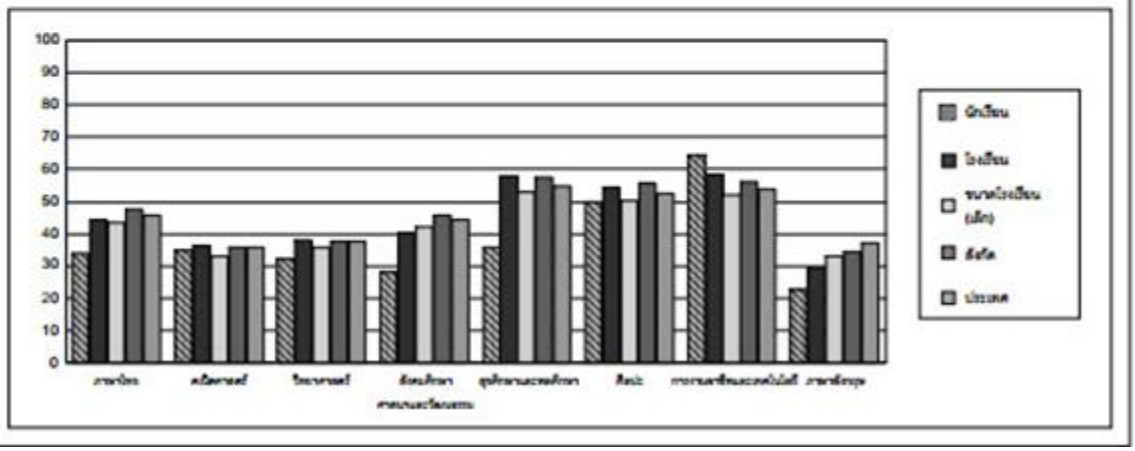
1. ข้อมูลผู้เข้าสอบ O-NET ป.6 ปีการศึกษา 2555

ชื่อ-สกุล :	เลขที่นั่งสอบ :	เลขประจำตัวประชาชน :
โรงเรียน :		ขนาดโรงเรียน : เล็ก
จังหวัด :	สังกัด :	

2. คะแนน O-NET

รหัสวิชา	กลุ่มสาระการเรียนรู้	คะแนนเต็ม	คะแนน O-NET ที่ได้	คะแนนมาตรฐาน (T-Score)	ค่าเฉลี่ยจำแนกตามระดับ โรงเรียน	ขนาดโรงเรียน (เล็ก)	สังกัด	ประเทศ
61	ภาษาไทย	100.00	34.00	42.01	44.45	43.31	47.56	45.68
64	คณิตศาสตร์	100.00	35.00	49.54	36.13	33.17	35.86	35.77
65	วิทยาศาสตร์	100.00	32.00	45.69	38.27	35.69	37.80	37.46
62	สังคมศึกษา ศาสนาและวัฒนธรรม	100.00	28.00	37.34	40.32	41.93	45.90	44.22
66	สุขศึกษาและพลศึกษา	100.00	36.00	37.86	57.81	53.00	57.30	54.84
67	ศิลปะ	100.00	50.00	48.38	54.17	50.14	55.44	52.27
68	การงานอาชีพและเทคโนโลยี	100.00	64.00	56.07	58.27	51.83	56.30	53.85
63	ภาษาอังกฤษ	100.00	22.50	41.64	29.35	33.23	34.60	36.99

3. กราฟเปรียบเทียบผลคะแนน O-NET ของนักเรียนกับค่าเฉลี่ยของโรงเรียน ขนาดโรงเรียน สังกัด และประเทศ



Ordinary National Educational Test (O-NET) Score Report

Fourth level--Secondary Education, Academic Year 2012

Mathayomsuksa 6

Name - Surname | Citizen ID

School | Province

Seat No.

Code	Subject	Score Earned (Total score 100)	National Statistics		
			Median	Mean	S.D.
01	Thai Language	30.00	47.00	47.19	15.16
02	Social Studies, Religion and Culture	22.50	35.63	36.27	8.53
03	Foreign languages	16.00	19.00	22.13	11.63
04	Mathematics	15.00	20.00	22.73	13.73
05	Science	28.98	31.69	33.10	10.37
06	Health and Physical Education	35.00	53.75	53.70	9.93
	Arts	29.50	33.00	32.73	8.61
	Occupation and technology	44.00	46.00	45.76	11.20

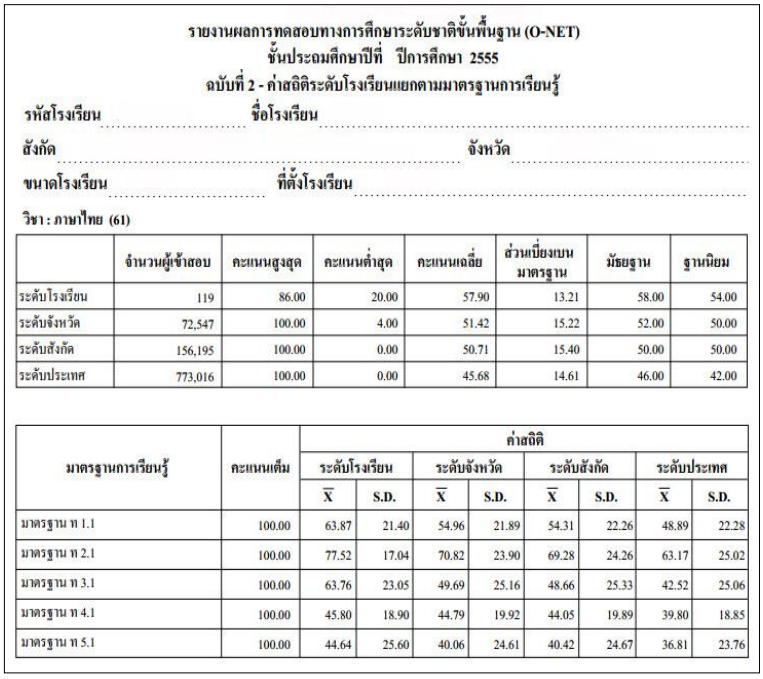
Given on April 5, 2013

(Associate Professor Samphan Phanphruk, Ph.D.)

Director, National Institute of Educational Testing Service (Public Organization)

b. **Sample of an O-NET Report for School Use**

Each national education test score is reported in terms of descriptive statistics by strand and by learning standards (school size, school location, education service area office, province, affiliation and national level) as shown in the following Table 1, 2 and 3 respectively



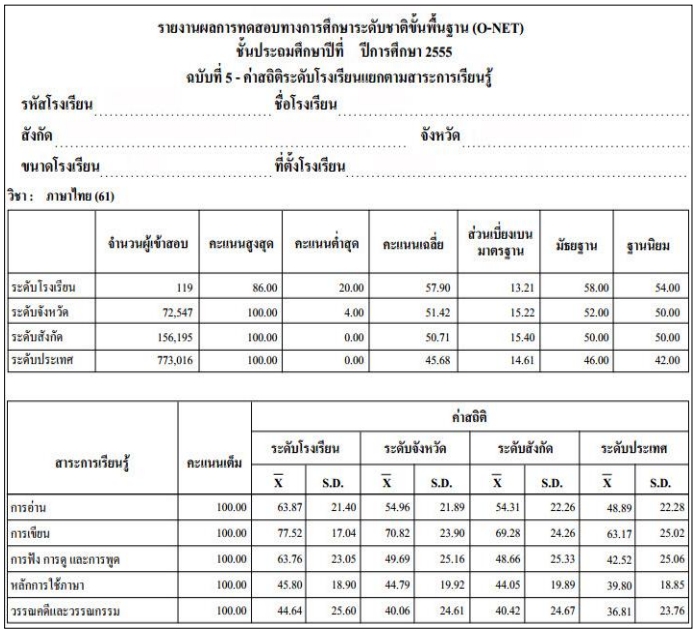
รายงานผลการทดสอบทางการศึกษาระดับชาติขั้นพื้นฐาน (O-NET)
ชั้นประถมศึกษาปีที่ ปีการศึกษา 2555
ฉบับที่ 2 - ค่าสถิติระดับโรงเรียนแยกตามมาตรฐานการเรียนรู้

รหัสโรงเรียน ชื่อโรงเรียน
สังกัด จังหวัด
ขนาดโรงเรียน ที่ตั้งโรงเรียน

วิชา : ภาษาไทย (61)

	จำนวนผู้เข้าสอบ	คะแนนสูงสุด	คะแนนต่ำสุด	คะแนนเฉลี่ย	ส่วนเบี่ยงเบนมาตรฐาน	มัธยฐาน	ฐานนิยม
ระดับโรงเรียน	119	86.00	20.00	57.90	13.21	58.00	54.00
ระดับจังหวัด	72,547	100.00	4.00	51.42	15.22	52.00	50.00
ระดับสังกัด	156,195	100.00	0.00	50.71	15.40	50.00	50.00
ระดับประเทศ	773,016	100.00	0.00	45.68	14.61	46.00	42.00

มาตรฐานการเรียนรู้	คะแนนเต็ม	ค่าสถิติ							
		ระดับโรงเรียน		ระดับจังหวัด		ระดับสังกัด		ระดับประเทศ	
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
มาตรฐาน ท 1.1	100.00	63.87	21.40	54.96	21.89	54.31	22.26	48.89	22.28
มาตรฐาน ท 2.1	100.00	77.52	17.04	70.82	23.90	69.28	24.26	63.17	25.02
มาตรฐาน ท 3.1	100.00	63.76	23.05	49.69	25.16	48.66	25.33	42.52	25.06
มาตรฐาน ท 4.1	100.00	45.80	18.90	44.79	19.92	44.05	19.89	39.80	18.85
มาตรฐาน ท 5.1	100.00	44.64	25.60	40.06	24.61	40.42	24.67	36.81	23.76



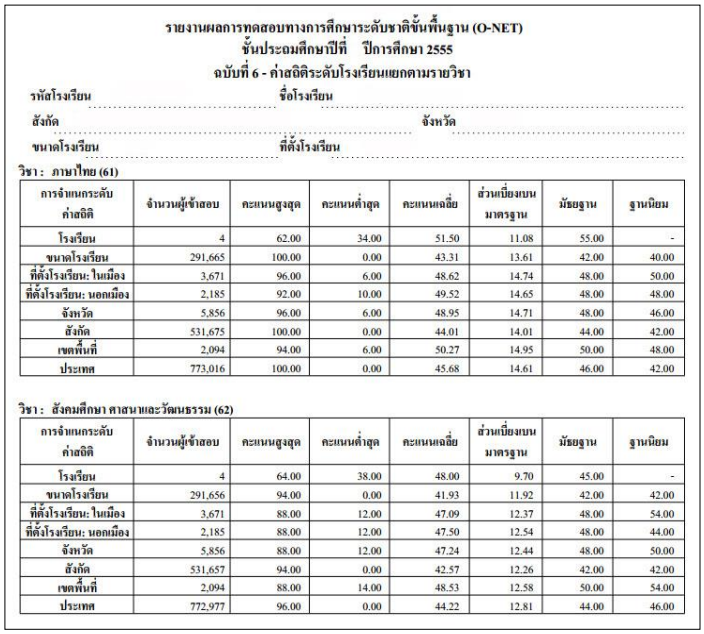
รายงานผลการทดสอบทางการศึกษาระดับชาติขั้นพื้นฐาน (O-NET)
ชั้นประถมศึกษาปีที่ ปีการศึกษา 2555
ฉบับที่ 5 - ค่าสถิติระดับโรงเรียนแยกตามสาระการเรียนรู้

รหัสโรงเรียน ชื่อโรงเรียน
สังกัด จังหวัด
ขนาดโรงเรียน ที่ตั้งโรงเรียน

วิชา : ภาษาไทย (61)

	จำนวนผู้เข้าสอบ	คะแนนสูงสุด	คะแนนต่ำสุด	คะแนนเฉลี่ย	ส่วนเบี่ยงเบนมาตรฐาน	มัธยฐาน	ฐานนิยม
ระดับโรงเรียน	119	86.00	20.00	57.90	13.21	58.00	54.00
ระดับจังหวัด	72,547	100.00	4.00	51.42	15.22	52.00	50.00
ระดับสังกัด	156,195	100.00	0.00	50.71	15.40	50.00	50.00
ระดับประเทศ	773,016	100.00	0.00	45.68	14.61	46.00	42.00

สาระการเรียนรู้	คะแนนเต็ม	ค่าสถิติ							
		ระดับโรงเรียน		ระดับจังหวัด		ระดับสังกัด		ระดับประเทศ	
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
การอ่าน	100.00	63.87	21.40	54.96	21.89	54.31	22.26	48.89	22.28
การเขียน	100.00	77.52	17.04	70.82	23.90	69.28	24.26	63.17	25.02
การฟัง การดู และการพูด	100.00	63.76	23.05	49.69	25.16	48.66	25.33	42.52	25.06
หลักการใช้ภาษา	100.00	45.80	18.90	44.79	19.92	44.05	19.89	39.80	18.85
วรรณคดีและวรรณกรรม	100.00	44.64	25.60	40.06	24.61	40.42	24.67	36.81	23.76



รายงานผลการทดสอบทางการศึกษาระดับชาติขั้นพื้นฐาน (O-NET)
ชั้นประถมศึกษาปีที่ ปีการศึกษา 2555
ฉบับที่ 6 - ค่าสถิติระดับโรงเรียนแยกตามรายวิชา

รหัสโรงเรียน ชื่อโรงเรียน
สังกัด จังหวัด
ขนาดโรงเรียน ที่ตั้งโรงเรียน

วิชา : ภาษาไทย (61)

การจำแนกระดับค่าสถิติ	จำนวนผู้เข้าสอบ	คะแนนสูงสุด	คะแนนต่ำสุด	คะแนนเฉลี่ย	ส่วนเบี่ยงเบนมาตรฐาน	มัธยฐาน	ฐานนิยม
โรงเรียน	4	62.00	34.00	51.50	11.08	55.00	-
ขนาดโรงเรียน	291,665	100.00	0.00	43.31	13.61	42.00	40.00
ที่ตั้งโรงเรียน: ในเมือง	3,671	96.00	6.00	48.62	14.74	48.00	50.00
ที่ตั้งโรงเรียน: นอกเมือง	2,185	92.00	10.00	49.52	14.65	48.00	48.00
จังหวัด	5,856	96.00	6.00	48.95	14.71	48.00	46.00
สังกัด	531,675	100.00	0.00	44.01	14.01	44.00	42.00
เขตพื้นที่	2,094	94.00	6.00	50.27	14.95	50.00	48.00
ประเทศ	773,016	100.00	0.00	45.68	14.61	46.00	42.00

วิชา : สังคมศึกษา ศาสนาและวัฒนธรรม (62)

การจำแนกระดับค่าสถิติ	จำนวนผู้เข้าสอบ	คะแนนสูงสุด	คะแนนต่ำสุด	คะแนนเฉลี่ย	ส่วนเบี่ยงเบนมาตรฐาน	มัธยฐาน	ฐานนิยม
โรงเรียน	4	64.00	38.00	48.00	9.70	45.00	-
ขนาดโรงเรียน	291,656	94.00	0.00	41.93	11.92	42.00	42.00
ที่ตั้งโรงเรียน: ในเมือง	3,671	88.00	12.00	47.09	12.37	48.00	54.00
ที่ตั้งโรงเรียน: นอกเมือง	2,185	88.00	12.00	47.50	12.54	48.00	44.00
จังหวัด	5,856	88.00	12.00	47.24	12.44	48.00	50.00
สังกัด	531,657	94.00	0.00	42.57	12.26	42.00	42.00
เขตพื้นที่	2,094	88.00	14.00	48.53	12.58	50.00	54.00
ประเทศ	772,977	96.00	0.00	44.22	12.81	44.00	46.00

Innovation/The Use of Technology

a. NIETS has a computerized database of test results (both scores and statistics), categorized by individual examinees, schools, subjects, jurisdictions and at national level.

b. NIETS provides test results for many organizations nationwide under the development project of supporting computer system for national test e.g. O-NET, V-NET, I-NET, B-NET and N-NET.

c. NIETS has an automatic test reporting system (RPS) for organizations, and an electronic score certificate printing system (e-Score) for individuals to serve large amount of requests from nationwide via internet. Both systems provide test results with the guarantee for the integrity of the whole system that nobody can tamper with the results.

d. NIETS has been launching a pilot project of using an electronic test administration system for equated O-NET simulation test in 100 schools since fiscal year 2009. Right now, we are in the process of developing a national-scale electronic testing system (E-Testing) and other related projects such as forming network of electronic test centers/sites in order to be used in U-NET by early 2014.

e. NIETS has been using varieties of modern information technology to support standardized test process in various aspect:

- Database: Design and develop specific database structure and data policy to support the growth of amount of test data more than 30 million "student x subject"-transactions per year.
- Programming: Develop applications for each of test process: examinee registration, seat allocation, test item scoring, test reporting and test analysis, etc. (With zero-defect guarantee.)
- Network & Systems: Design, implement and monitor the servers, network equipments, and security systems to guarantee the stability of the whole system. NIETS also has a sufficient facility for information backup and retrieval at DR (Disaster Recovery) site in order to ensure the full-time availability of high-stake services such as registration and score reporting services.

Problems, Obstacles and Solutions

NIETS does not have sufficient academic personnel to undertake all its missions. Most of its personnel are supporting staff. It seriously lacks special academicians especially in the field of testing and assessment research and information technology.

Issues and Trends of National Testing and Assessment in Education in Thailand

- NIETS seeks cooperation and networks at an individual and organization level both inside (an existing network of nine university center hub) and outside of the country. This aims at developing the knowledge on the national testing and assessment in ASEAN and Asia-Pacific region, i.e. ASEAN English Proficiency Standards.
- NIETS continues to perform a dual function of national testing and national assessment in line with any other international assessment system, i.e. PISA of OECD.
- All aspects of learners' quality as stipulated in the learner's standard at basic education, vocational and higher education levels will be assessed.
- Item banking and E-Testing in the national testing and assessment continue to develop and implement.
- NIETS provides test services on the development of examination and measurement of knowledge and standards, based on the developmental stages and graduation criteria as well as the assessment of physical, emotional, intellectual and social development and make them available to all children.

Vietnam

Name of organization

General Department of Education Testing and Accreditation (GDETA)
Ministry of Education and Training of Vietnam (MOET).
Cuc Khao Thi va Kiem dinh chat luong giao duc, 30 Ta Quang Buu
Hai Ba Trung, Hanoi, Vietnam

Director

Dr. Ngo Kim Khoi

Vision

One organization to do both the government management functions and services in two fields: Testing and Accreditation.

Mission

a. Developing the legal documents and guidelines in term of testing and accreditation.

b. Supplying guidance to organize examinations; inspecting the examinations, assessing and accrediting universities, colleges and schools.

c. Building item bank center; developing tests for national examinations; organizing talented student teams to participate in Regional and International Olympic Competitions; organizing International Olympics in Vietnam; assisting the local units to develop and score tests, manage the examinations.

d. Applying the scientific technologies and progresses in the field of testing and accreditation.

e. Doing the international cooperation in term of testing and accreditation.

f. Doing the professional training in term of testing and accreditation.

Organization structure

The organization structure of GDETA includes one Director General, four Deputy Director Generals. There are six Divisions in GDETA: General Office (six members), Division of Testing (eight members), Division of Higher and Professional Secondary Education Accreditation (seven members), Division of Basic Education Accreditation (five members),

Center of educational quality evaluation (three members) and Division of Overseas Degree Recognition (two members). Each division has one head and one or two vice-heads.

a. General Office

This division does the tasks in the area of planning, administrative, finance, personnel, preparation of infrastructures for the activities of the department.

b. Division of Testing

This division does the government management functions in the field of testing. Some specific tasks are: instructing to organize the examinations, taking part in editing questions for tests, organize the development of the national tests, solve other problems relating to testing and examination, doing the testing services, organizing examinations to select talented students for Regional and International Olympic Competitions.

c. Division of Basic Education Accreditation

This division is responsible for doing the work relating to the accreditation of basic education (primary, lower secondary, upper secondary), pre-school education and continuing education. The work includes developing standards and criteria, doing the training of self-evaluation and external assessment, doing the services in this field.

d. Division of Higher and Professional Secondary Education Accreditation

This division is responsible for doing the work relating to the accreditation of universities, colleges and professional secondary schools. The work includes developing standards and criteria, doing the training of self-evaluation and external assessment, setting up site visit teams and doing the services in this field.

e. Division of Overseas Degree Recognition

This division is responsible for recognizing the bachelor, master and PhD degrees of foreign institutions issued for Vietnamese people.

f. Center of educational quality evaluation.

This division is responsible for evaluating the educational quality of secondary.

National testing and examination system

There are four national examinations in Vietnam, include:

- Graduating Upper Secondary School Examination, held in June;
- Entrance University and College Examination, held in July;
- National Olympic (selecting talented grade 11 and 12 students), held in March;
- Selecting Talented Students to participate in International Olympic Competitions, held in April.

Test/Examination standards

a. Graduating Upper Secondary School Examination

- The content of test has to include the content of the curent programme, especially the content of the last grade of upper secondary.
- Test the overall knowledge and the ability of apply the knowledge and the ability of practice of students.
- The test must assure the preciseness, logicality and pedagogics.
- The test must classify the level of students
- Time appropriateness for each subject.

b. For Entrance University and College Examination

- The content of test has to include the content of the curent programme, especially the content of the last grade of upper secondary.
- The test must be appropriate with the requirement of knowledge, skill in the programme of each subject.
- The test must cover the basic knowledge, the ability of applying knowledge and practice of students.
- Assure the preciseness, logicality and pedagogics.
- The test must be not used before.
- The test must classify the level of students and assure the time appropriateness for each subject.

Testing procedure

a. GDETA gives documents instructing the organization of examination, that include the requirement of the contents and format of the tests, admission conditions for students to participate in the examinations, the preparation of teachers, places, times, and other infrastructure. All the activities and performance of the examinations must follow the testing regulations. At this time there are three testing regulations in Vietnam: regulations for Graduating Upper Secondary School Examination, regulations for Entrance University and College Examination, regulations for Selecting Talented Students Examination.
Only students who get enough conditions (results at school, health, morality) can attend the Graduating Upper Secondary School Examination. Students who are selected in talented local teams can attend the National Olympic.

b. We set up Examination Steering Council, in which there are Standing Unit,

Developing Test Committee and Inspecting Groups.

The Standing Unit receives applications or total up the number of applicants and solve the other things relating to the examination.

The Developing Test Committee starts working 20 days before the date of the examination and is absolutely isolated, only free after the examination finishes. The members of this committee are good and experienced lecturers from universities, teachers from schools and officers specializing in assessment from provincial departments of education and training nationwide. The Committee works in an isolated place, which is secured by police all days and nights.

At this moment, the Graduating Upper Secondary School Examination and the Entrance University and College Examination have two kinds of tests: multiple choice question (MCQ) and essay. The subjects that are tested by MCQ are Physics, Chemistry, Biology and Foreign Languages (English, French, Russian, Chinese, German, Japanese). Other subjects like Math, Literature, History, and Geography are essay tests. National Olympic and Selecting Talented Students for International Olympic Competitions only have essay tests.

For the MCQ tests, the Item Bank Center provides questions and items for the test developers to select and edit to make official tests.

For the essay tests, firstly, we invite lecturers, teachers, experts of assessment to prepare proposal tests. They are the sources for the test developers to edit to make official tests.

Printing and sending the tests:

For Graduating Upper Secondary School Examination: The tests are stored in the CDs (with password) and sent to 63 printing centers in provinces/cities to be printed and then sent to students.

For Entrance University and College Examination: The tests are stored in the CDs (with password) and sent to 20 printing centers at universities to be printed and then sent to students.

For National Olympic and Selecting Talented Students for International Olympic Competitions: The Developing Test Committee makes the tests and print the papers. The papers are packed, sealed and sent to students.

c. The universities, colleges and provincial departments of education and training set up the Invigilating Committee and Scoring Committee.

d. After the tests finish, the Invigilating Committees seal the papers and send them to Scoring Committees. The teachers score the essay papers in each province or university. The MCQ tests are scored by machines in scoring rooms. The inspectors supervise the scoring process.

Result

The results are standardized into 10-grade scale and announced to the students (normally 20 days after the examination).

For the Graduating Upper Secondary School Examination: students who get at least 50% total score and no subject get mark 0 pass this examination and get certificate. Those who get under 50% total score or at least one subject get mark 0 fail this examination and have to retake in the following year.

For the Entrance University and College Examination, National Olympic, Selecting Talented Student Examination: the students are selected from the highest average score to the lower one with the suitable number.

The students who are not satisfied with the score can ask for checking and relooking at their papers.

Innovation/The use of technology

For Graduating Upper Secondary School Examination, to increase the supervision from the public, the students are allowed to bring the recording and video equipment into examination rooms but those equipment could not be allowed to emit the contents if lacking of support equipment.

Problems, obstacles and solutions

a. Problems and obstacles

There are no professional test developers in Vietnam. They are the lecturers, teachers and government officers of education. Some good and experienced test developers refuse to take part in the Developing Test Committee because they are too busy with their main work and the days to be isolated are too long.

There is a lack of officers working at Item Bank Center. Although the items of MCQ are edited, they have not been tried yet. There is no bank of essay questions for the development of essay tests.

It is very secure for the test developers to work in isolated place. However, the time is too long (20 days).

There is no practice in the National Olympic and the Selecting Talented Student Examination. The listening and speaking skill in the foreign language subjects are not tested. We have to hire building places and infrastructures to do the work of developing tests.

b. Solutions

Employing more officers, especially those who have experiences in testing and assessment to work for GDETA.

Building a new office with enough rooms and infrastructures for the edition and development of the tests.

Trends of national assessment in education

We are thinking of having more subjected tested by MCQ and before we had the plan to combine the Graduating Upper Secondary School Examination and Entrance University and College Examination into one. If we do it, the students will only take one examination and their score can use for graduating from upper secondary school and applying into university. But it is just long time plan, now this plan has to be revised by its unfeasibility.

V. Appendix

Symposium Program

Tuesday, 3 September 2013

08:00 – 09:00	Symposium registration starts.
09:00 – 12:00	Pre-symposium workshop on *Multidimensional Item Response Theory: IRTPRO* Professor Mark L. Davison, PhD University of Minnesota Venue: M 1-4, 23rd Floor
12:00 – 13:30	Lunch Venue: The World and Ginger, 22nd Floor
13:30 – 16:30	Pre-symposium workshop on *Multidimensional Item Response Theory: IRTPRO* (continued) Professor Mark L. Davison, PhD University of Minnesota Venue: M 1-4, 23rd Floor
17:00 – 20:00	Welcome reception Venue: M 1-4, 23rd Floor

Wednesday, 4 September 2013

08:00 – 09:00	Registration (continued)
09:00 – 09:30	Opening ceremony Venue: Convention Centre A2 Report by NIETS Director Opening address by Deputy Prime Minister, H.E. Mr. Phongthep Thepkanjana
09:30 – 10:00	Awards presentation ceremony for schools with continuous progress in high score on the O-NET
10:00 – 10:15	Coffee break
10:15 – 12:00	Plenary session Venue: Convention Centre A2 Keynote speech I on *Assessment and Benchmarking of Learning Outcomes in the Asia-Pacific Region* by Gwang-Chol Chang, PhD, UNESCO Bangkok Keynote speech II on *Testing and Assessment at the State and Federal Level in the United States* by Professor Mark L. Davison, PhD, University of Minnesota
12:00 – 13:30	Lunch
13:30 – 17:00	Parallel session
[13:30 – 17:00]	Country report I

Cambodia
Malaysia (MEC)
Malaysia (MES)
Hong Kong
Singapore
Brunei

Country report II

Indonesia
Thailand
Lao
Vietnam
Philippines

Venue: Lotus V - VII

[14:45 – 17:00] 1. *U-NET and TQF*
Venue: M 1-2
2. *O-NET and Learning Capacity*
Venue: Convention Centre A2
3. *V-NET: Present and Future of Thai Vocational Education*
Venue: Lotus I – IV

Thursday, 5 September 2013

08:00 – 09:00 Registration (continued)
09:00 – 11:30 Parallel session (continued)
Country report III

Korea
Japan (NIER)
Japan (NCUEE)
Taiwan

Venue: Lotus V – VII
11:30 – 13:30 Lunch
Venue: The World and Ginger, 22nd Floor
13:30 – 16:00 Closed meeting: *Framework for ASEAN +4 Networking*
Venue: Lotus V – VII

Friday, 6 September 2013

Optional tour/field visit: Chulalongkorn University Academic Testing Center

About the Editors

Professor Emeritus Somwung Pitiyanuwat, PhD, is the named professor at the Faculty of Education, Chulalongkorn University, and Chairman of the National Institute of Educational Testing Service (Public Organization) Executive Board. He earned his doctorate in Educational Psychology from the University of Minnesota. Prior to his retirement, he was Dean of the Faculty of Education, Chulalongkorn University, Advisor to the President of Chulalongkorn University, and Vice President for Research Affairs of Chulalongkorn University respectively. He was appointed the Director of the Office for National Education Standards and Quality Assessment (ONESQA), Thailand in 2001. During his term, he was instrumental in shaping the both Thai Quality Assessment and Educational Reform at all levels of educational institution. Being an active member of numerous national and international boards and committees on educational development and quality assurance, he has also published ten books and a number of research papers/articles.

Associate Professor Samphan Phanphruk, PhD, is the Director of the National Institute of Educational Testing Service (Public Organization). He obtained his doctorate in Evaluation and Assessment from Chulalongkorn University. Prior to his appointment, he was Dean of the Faculty of Education, Khon Kaen University, Chairperson of Thailand Education Deans Council, Vice President of Buriram Rajabhat University, and member of the National Education Standards and Quality Assessment Executive Board respectively.