

Seminar-Workshop on the Management of Curriculum Change

WORKSHOP REPORT

June 7 – 9, 2006

Frank X. Lynch S.J. Resource Center
Philippine Social Science Council
Commonwealth Avenue
Diliman, Quezon City
Philippines



SEMINAR-WORKSHOP ON THE MANAGEMENT OF CURRICULUM CHANGE

The need to revise and update existing educational curricula to respond to profound and multifaceted changes occurring in the world today is widely recognized. The UNESCO International Bureau of Education (IBE) and the UNESCO Asia-Pacific Regional Bureau for Education in Bangkok have pioneered in the development of a framework and an overall guide for managing curriculum changes towards enhancing educational quality and relevance. Their work is contained in A Resource Pack for Leading and Facilitating Curriculum Change.

This three-day seminar-workshop aims to gather the key sectors and players/actors of the Philippines Basic Education System to:

Look at and discuss the merits of the Resource Pack for application in the Philippine setting

- Promote the adoption/adaptation of appropriate curriculum change ideas and modules in the Resource Pack
- Build local capacity for curriculum change and renewal; and
- Form a multisectoral and multi-level network or a community of practice to mobilize popular support for and facilitate the implementation of proposed curriculum changes.

The seminar workshop will have among its participants curriculum experts, teachers, school managers, members of local school boards and local government officials, parents, other teacher-training institutes, education specialists, officials and policy makers from the National & Regional offices of the Department of Education and other relevant institutes. Social scientists and representatives from media are also welcome to participate.

The seminar-workshop will have as resource speakers some of the known experts in education who have participated in the development of the Resource Pack including Prof. Zhou Nanzhao of China, Dr. Ella Yulaelawati of Indonesia, Ms. Lucille Gregorio, IBE Consultant, and experts in the Asia-Pacific region.

PROGRAM OF ACTIVITIES

June 7, Wednesday

9:45 am Opening Session

Welcome Remarks from the Program Sponsor and Organizers
Philippine Social Science Council (PSSC)
UP National Institute of Science and Math Education (UPNISMED)
UNESCO – International Bureau of Education (INESCO-IBE)

10:00 - Overview: Directions and Policy Issues of Curriculum
10:45 Change in Asia-Pacific Contexts

Dr. Zhou Nanzhao
Director and Professor
China National Institute of Educational Research
Ministry of Education, China

10:45 - APEID's (Asia-Pacific Programme of Education
11:30 Innovation for Development) Role in Curriculum
Change and Innovation

Dr. Molly Lee
APEID Coordinator
UNESCO Bangkok

11:30 - Open Forum
12:00

Moderator: *Dr. Virginia A. Miralao*
Executive Director
Philippine Social Science Council

12:00 Lunch



June 7, Wednesday

1:15 - Reconceptualizing the Knowledge Blocks in Philippine
2:15 Basic Education

Mr. Arnold M. Azurin
Fellow, Center for Integrative and Development Studies
University of the Philippines - Diliman

2:15 - Presentation of the Resource Pack on Leading and
4:00 Facilitating Curriculum Change *and* Workshop on Critical
Issues Facing Curriculum Change and Renewal in Philippine
Basic Education

Ms. Lucille C. Gregorio
Consultant
IBE and UNESCO National Commission of the Philippines

June 8, Thursday

9:00 - Community of Practice in Curriculum Development
9:30 am *Mr. Renato Opertti*
Consultant
Capacity Building Programme
Global Network of Curriculum Developments
IBE/UNESCO, Geneva Switzerland

9:30 - A Social Scientist's View of Education Reform and
10:00 Curriculum Change in the Philippines
Dr. Virginia A. Miralao
Executive Director
Philippine Social Science Council

10:00 Coffee Break

10:15 - Local Education Reform Efforts in the Philippines:
10:45 A Situationer
Mr. Wilfredo Prilles
Naga City School Board

- 10:45 - 12:00 Open Forum
 Moderator: *Dr. Florentino Hornedo*
 Commissioner
 Social and Human Sciences Committee
 UNESCO National Commission of the
 Philippines
- 12:00 Lunch
- 1:15 - 2:00 Curriculum Change: Implications for Teachers' Professional
 Development
 Dr. Merle C. Tan
 UP NISMED Director
- 2:00 - 2:45 Curriculum Reforms in the Philippine Context: Some
 Success Stories and Some Remaining Challenges
 Dr. Lolita Andrada
 Director, Bureau of Secondary Education
 Department of Education
- 2:45 - Coffee Break
- 4:00 Open Forum
 Moderator: *Ms. Lucille Gregorio*
 Consultant, IBE and UNESCO

June 9, Friday

- 9:00-10:00 The Rationale and Modalities of Education Decentralization
 and the Localization of the Curriculum: The Indonesian
 Experience
 Dr. Ella Yulaelawati
 Director, Equivalency Program
 Ministry of Non-Formal Education
 Jakarta, Indonesia
- 10:00 Coffee Break

- 10:15 - Four Pillars of Learning
11:15 *Dr. Zhou Nanzhao*
Director and Professor
China National Institute of Educational Research
- 11:15 - Open Forum
12:00 Moderator: *Dr. Zenaida T. Domingo*
Head, Business Development Office
SEAMEO-Innotech
- 12:00 Lunch
- 1:00 - Special Panel on Madrasah Education, Values Education
4:45 pm and Citizenship Education
- Dr. Ella Yulaelawati*
Director, Equivalency Program
Ministry of Non-Formal Education
Jakarta, Indonesia
- Dr. Manaros B. Boransing*
Undersecretary for Mindanao Affairs
Department of Education
- Moderator: Dr. Ma. Concepcion Emma Liwag
Chair, Department of Psychology
Ateneo de Manila University
- 4:45 Closing Remarks
- Dr. Erlinda Pefianco*
Chair, Education Committee
UNESCO National Commission of the Philippines

WORKSHOP PRESENTATIONS

- Overview: Directions and Policy Issues of Curriculum Change in Asia-Pacific Contexts
- APEID's Role on Curriculum Change and innovation
- Leading and Facilitating Curriculum Change
- Local Education Reform Efforts in the Philippines: A Situationer
- Community of Practice in Curriculum Development
- Curriculum Change: Implications for Teachers' Professional Development
- Four Pillars of Learning
- Status of Madrasah Education in the Philippines and its Development and Institutionalization as a component of the Philippine System of Education

**REFLECTIONS ON CURRICULUM CHANGE:
OVERVIEW OF DIRECTIONS, POLICY ISSUES AND CAPACITY BUILDING IN
ASIA-PACIFIC CONTEXTS**

Zhou Nan-Zhao

East China Normal University
China National Institute of Educational Research

I. INTRODUCTION & BACKGROUND

- Significance of curriculum:
 - ♦ Curriculum lying at the heart of educational processes in achieving educational aims;
 - ♦ Relevant curriculum as a determining factor of educational quality
- Changing nature of curriculum:
 - ♦ Curriculum as 'an on-going process aimed at organizing better learning opportunities and thus focusing on actual inter-actions between the teacher and the learner' (UNESCO-IBE)
 - ♦ Curriculum as the organization of learning sequences and experiences in view of producing desired learning outcomes;
 - ♦ Curriculum not only as products that describe curriculum content but also inputs and processes
 - ♦ Curriculum delivery through diversified educational content; textbooks as only one of the means of delivering curriculum
- Profound impacts of new ICT making information-acquisition curriculum and rote learning irrelevant and leading to changed learning objectives, leaning content, learning approaches, learning outcomes evaluation and learners themselves
- Increasingly recognized links between learning, teaching and assessment — requiring monitoring, feedback as well as subsequent revision and modification
- Schooling only as one part of a on a lifelong learning continuum: curriculum developers should not hope to deliver all that they think what they think the learners should learn at one phase of learning; the need for an integrated holistic approach

- “Curriculum change” understood as a process of varying scale and scope depending on context; Curriculum change as a complex and dynamic process involving diverse stakeholders in the development of a range of products
 - ♦ Rote learning with crammed information
 - ♦ Influence of college-entrance examination
 - ♦ Lack of diversified quality curricular materials

- Curriculum reform becoming priority of development for all countries: Reform motivated by: economic concerns, social inclusion, HRD for sustainable development in emerging knowledge society, impacts of ICT, preservation of cultural traditions, and impacts of globalization

- Curriculum Reform in East Asia

CHINA: basic ed curriculum reform launched in 1999; Curriculum goals, standards, structure, content, process, evaluation and management set in 2001; provincial/municipal experimental areas in 2002; over-all implementation of new curriculum in 2003/4; developments in 2006

KOREA, S.: MOEHRD-charged 7th revise curriculum tried. Serious opposition from teachers (‘idealistic/irrelevant direction and content’); ‘Differentiated curriculum’; 30% reduction in curriculum content

JAPAN: Central Education Council through Curriculum Council: new National Curriculum Standards introduced in 1998, to begin implementation in 2002

 - change to 5-weekdays→reducing teaching hours: PS:1015→945
 - greater flexibility of learning guide to promote learner-center ed
 - from memorization to critical thinking: reducing 30% content
 - response to internationalization and information explosion: foreign languages and technology & family made compulsory
 - new course on ‘comprehensive learning time’ in curriculum

- Curriculum Reform in South-East and South Asia
 - ♦ Some have implemented reforms and are monitoring or evaluating reforms: INDIA; PHILPPINES; NEPAL
 - ♦ Many are implementing or preparing reforms: BL; MM; INDN; SL; VN; MD.

CAMBODIA: Curriculum reforms introduced in 1994; MOE ‘Education Reform Comm.’; SINGAPORE: (1996) Committee of School Curriculum Evaluation & Systematic Review; (1999) 10-30% content reduction; (2000).

Situations of Curriculum Change in Asia

■ *Common problems in conventional curriculum:*

- ♦ Centralized mode of curriculum decision-making
- ♦ Out-of-datedness and irrelevance of learning content
- ♦ Neglect of human values and social/life skills
- ♦ Discrepancy between general and vocational and between science and humanistic education components
- ♦ Low level of teacher participation in decision-making and inadequate professionalism in curriculum development
- ♦ Crowdedness and over-loaded subject content

VIETNAM: national exams to respond; (2001) over-haul of school curricular guidelines and syllabus; a basic curriculum evaluation undertaken by MOE

THAILAND: Learning Reform at the heart of educational reform, implemented from policy level to grass-root level.

- ♦ MOE Committee for Reform of Curriculum & Learning Process: reformed curriculum to be introduced in 2002
- ♦ Curriculum framework for national core curriculum allowing local adaptation of learning content
- ♦ Subjects in 8 groups: Thai lang.; math; science; social studies; religion & culture; health ed & physical ed; art, work ed & tech; foreign lang.
- ♦ Basic ed curriculum reform at institutional level: pilot projects and training packages prepared for local curriculum; each school to establish School Curriculum Committee.

II. DIRECTIONS OF CURRICULUM CHANGE

Curriculum Objectives and Educational Aims

Instrumental:

- education for specific purpose: raising productivity and competitiveness in the market

- Partly of '*learning to know*' (facts and information)

- narrowly defined '*learning to do*' (job-specific vocational skills to earn a living)

- Education providing "*maps* of a complex world in constant turmoil': The profound impacts of ICTs: rote learning of factual knowledge made irrelevant

- Education providing simultaneously '*the compass* that will enable people to find their way in it'

- Developing only part of intellectual faculty

Humanist:

- Development of 'complete', person not only in cognitive but affective, moral/ethical, aesthetical terms. 'Training is not education in its true sense' (J. Dewey)

- '*Learning to be*': More attention to values/attitudinal/behavioral dimension of curricular content: socialization to cultivate positive values and responsible social behaviors

- The formation of world- outlook and life-outlook

- *Guide to multiple sources of information and knowledge*: learning not only collect but select, analyze and manage information

- *Guide to learning aims, path ways and approaches*: learning to learn: the mastery of instruments of knowing

- Full flowering of human potential of individual learner and tapping talents 'hidden like buried treasure in every person'

Aims of Secondary Education

- Preparation for higher education
- Preparation for the world of work
- Preparation for responsible citizenship
- Preparation for learning throughout life

Implications for curriculum

- ◆ Not only disciplinary knowledge but social/vocational/life skills and civic values
- ◆ The need for learner-centered approach to organization and delivery of learning content
- ◆ Multiple competencies for changing environments
- ◆ Challenges of new learning environments for new learning objectives:
 - learning for creativity and adaptability for change
 - *learning to preserve cultural identity and develop inter-cultural understanding*
- ◆ Human qualities for inter-personal relationships becoming essential while job-specific occupational skills becoming secondary

Curriculum Changes in Design, Content, Textbook Development, Management and Assessment

- Teaching and teacher-centered
 - Curriculum & textbooks designed to reflect roles of the teacher as 'source of information' and 'provider' of knowledge
- Learning and learner centered (BT; ML; NP; SL; VN; TH)
 - to facilitate active learning, develop inquiry skills, and nurture creativity
 - facilitating learning to learn
 - more attention to learning process
 - more learner-directed activities/projects
- Rigid discipline-based subjects
 - Interdisciplinarity and integration of subjects into curricular 'package' in cohesive ways
- College-bound cognitive learning
 - Multi-dimensional learning for higher learning, for the world of work and for responsible citizenship
- Examination-oriented: teaching to test
 - Outcomes-oriented: achieving learning goals
- School education claimed 'value-free', without course offering in moral/civic education
 - Teaching of shared human values made a learning area and values/ethic education to be integrated into curriculum at all levels
- Totally academic curriculum
 - Diversification of educational content
- Terminal learning as once-for-life chance before employment
 - Integral part of a lifelong learning continuum

- Largely national and local concern: education as a primary vehicle for transmitting and preserving cultural norms
 - Increasing international concern due to globalization (demand for new learning opportunities expanding across communities in multicultural societies)

- Curriculum management: Highly centralized curriculum process and management
 - Curriculum management: Decentralization, with flexibility for local/regional inputs and adaptation of national core curriculum:
IS: over 20%; Lao: 20%; VN: 15%; ML: 1/3

- Over-loaded curriculum (CN; IN; INN; PH; VN)
 - lack of definition of basic competences and their structures
 - fragmented approach to responding to new demands/needs
 - adding new subjects without removal
 - competing for content and for teaching hours
 - Reducing curricular load:
 - *by better defining basic subject content and integrating related subject areas*
 - *by balancing basic learning competences and content to be achieved at the end of each stage cycle*
 - *by preparing teachers for new approach*
 - JP:** *each subject content and teaching hours in each subject area education content to be reduced 30%*
 - KR:** *30% reduction of curriculum content;*
 - SG:** *30% reduction*

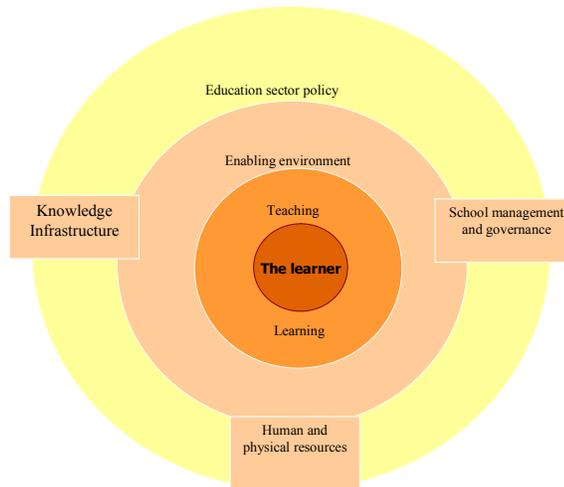
- Technology either missing or weak: IT education offered only as a subject, with acquisition of specific knowledge/skills as learning goal subjects)
 - Technology pervasive: ICT integrated into content & process:
 - ICT as a subject
 - ICT as a tool (applied to T-L in all
 - ICT as educational resources (for all learning areas, in learning to learn)
 - ICT as lever for educational change

- Textbooks being the only or dominant curricular materials
- Textbooks as part of multi-media learning materials or no standardized textbooks
- Curriculum assessment to evaluate learning achievement terms to
- Assessment changed accordingly in quantitative and qualitative align with curricular change
 - "to measure not only the 'measurable' but the 'relevant' "(A. Pillot & J. Osborne)
 - comprehensive assessment of performance of teacher/school and education system
 - both formative and summative assessment (e.g. for practical work)
- 'in seeking to make the important measurable, only the measurable has become important' (A. Pillot & J. Osborne)
- Evaluating individual students based on testing results in term of quantified test scores
- No valid/reliable instrument for evaluation of value/behavioral outcomes

III. POLICY ISSUES IN CURRICULUM CHANGE

- Rethinking curriculum objectives before re-forming curriculum: continuing efforts to translate educational goals into activities, materials and observable behavioral changes
- Aligning curriculum and teaching standards to learning standards
- Open attitudes toward experiments with different curricular models
- Setting policy frameworks for curriculum change

Policy framework for improving the quality of teaching and learning



[Source: *EFA Global Monitoring Report 2005*]

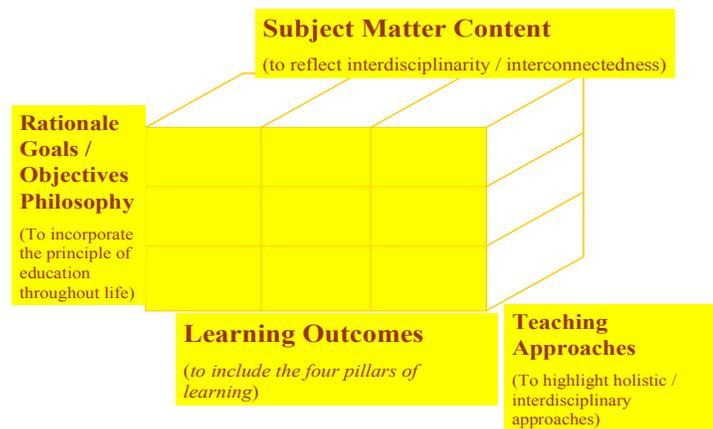
- Differentiation in curriculum rational or effective for individualization?
- ROK: 'A differentiation curriculum was introduced in which different learning objectives were prepared for different groups of students ... based on academic capability for 1st-10th grades and on interests and future career for 11th-12th grades'.
- Minimum standards? For whom? On what assumptions? Conflict with equity principle? Conflict with research findings on learning capacity of children? Possible educational/social consequences: track system leading to social stratification?
- Inquiry/exploratory learning as a cross-cutting principle and research-based learning as a subject
- Balance between omni-disciplinarity (specialized knowledge) and broad general education: what should be included/excluded in the fundamentals/foundation skills and knowledge? What could be self-learned by learners?
- Methods of classifying and packaging essential learning content?
- Future-oriented curriculum: developing adaptability to change in an uncertain future, competences for occupations which do not exist yet?

- How to integrate in curriculum both the content and tools of learning?
- Modification + addition of courses, or fundamental removal or replacement and reorganization?
- Supply-driven (deliver what we know, what we assume learners need know) or demand-driven (what the society and learners need know, which we might not know well enough to teach), or demand-driven?
- Over-load or under-load?
- Articulation and transition between primary and lower/upper secondary levels: *holistic and integral curricular design for adequate preparation for learning at a higher level but avoiding duplication/repetition*
- Mechanisms for supervision, monitoring and systematic evaluation of curricular changes
- Sustainability of curriculum reform after external funding: *resources for sustained reform; on-going improvement based on feedback but avoid risk of abandonment*
- Lifelong learning as a principle cutting through all stages and curriculum development for each grade and level: *school curriculum as part of a continuum of learning*
- College-entrance exam remaining bottleneck of fundamental & successful curricular reform: *teach to the test or test what is taught and should be learned through curriculum?* ROK: 'CEE-centered school education nullifies all expected effects of educational innovation'.
- Approaches to curriculum change: *Fundamentally repackaging curricular content?*
- Re-defining learning areas and study of themes aimed at integrating knowledge and abilities through skill-based learning and problem-solving:

Structure of knowledge → Main areas of learning → Basic learning competencies (knowledge, skills, values) → Teaching modules/integral learning units (as 'curricular blocks')

- More drastic reorganization of content and method of delivery: *'Non-graded primary education'*: not *'one-size for all'*; nor *'cutting the feet to fit the shoes'*
 - Build integral *credited* teaching modules/units or *'learning blocks'* to be *'assembled'* or restructured in light of learning goals
 - No standardized textbooks: standards and assessment on both ends, with teachers accountable for designing own varied curricular materials: *'ownership'*
- More diverse curricular models:

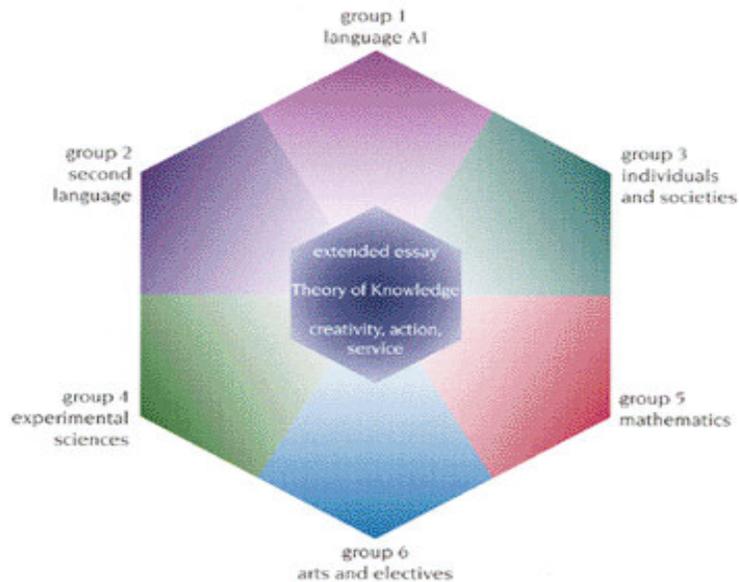
A Proposed Framework for Renewing Curriculum in Light of Pillars of Learning (*IBE-PROAP Seminar*)



IBO: Middle Years Programme



IBO: The Diploma Programme



The IBO Diploma Model

- A comprehensive curriculum model based on the pattern of no single country, but incorporate best elements of many
- A hexagon with six academic areas (subject groups) surrounding the core. Subjects studied concurrently
- Students required to select at least one subject from each of the six groups. At least 3 but no more than 4 taken at Higher Level (HL) and the other at standard level (SL). HL: 240 hours; SL 150 hours.
- TOK designed to develop coherent approach to learning transcending / unifying academic areas. Extended Essay (4000 words) offers opportunity to investigate a topic of special interest. CAS to involve students in community service, sports and artistic pursuits.

IV. CAPACITY BUILDING OF TEACHERS FOR CURRICULUM CHANGE

- Teachers' vital roles in curriculum change:
 - ◆ 'real actors'
 - ◆ 'participants' in decision-making
 - ◆ 'conveyors' of curriculum philosophy
 - ◆ motivated and effective 'implementers'
 - ◆ 'designers' of curricular materials and teaching approaches
 - ◆ 'lifelong learners' for constant improvement
- Curriculum reform and teacher professional development (PD) closely inter-linked in 'building a learning profession': ***the former depends on the latter***
- What matters most in student learning outcomes: the quality of learning opportunities: ***The quality of what teachers know and can do has the greatest impact on student learning:***
 - lowering pupil-teacher ratio: 0.04
 - increasing teacher salary: 0.16
 - increasing teacher experience: 0.18
 - increasing teacher education: 0.22

[Source: Laurence Ingvarson, Australian Council of Educational Research, Presentation at UNESCO MTT Training Workshop, Beijing, 2002]

- Teachers' Capacity Building for Improving Teaching and Learning
 - ◆ *Learning to know:* understanding structure of knowledge, mastering the renewed curricular standards, and knowing pedagogical approaches to facilitate learning to learn with/through ICT
 - ◆ *Learning to do:* developing/adapting curricular modules of reorganized learning content, delivering them in appropriate pedagogical approaches and enabling learners to apply technology as tools and resources of learning
 - ◆ *Learning to be:* developing professional attributes, including commitment, sense of responsibility and love for teaching and for learners to improve human communication
 - ◆ *Learning to live together:* breaking isolation for team work and guiding learners as 'coach' of learning and as co-learners with their pupils in achieving educational aims of human development and full flowering of human potential.

APEID'S ROLE IN CURRICULUM CHANGE AND INNOVATION

Molly N. N. Lee
UNESCO BAngkok

APEID MISSION

- **Asia-Pacific Programme of Educational Innovation for Development**
- **“..to be responsible for stimulating and encouraging educational innovation through a network of national institutions”**

APEID NETWORK

“Network of networks”

- **Associate Schools Project Network,**
- **UNEVOC**
- **APEID Associate Centres**
- **UNESCO Chairs/UNITWIN**
- **Management of Curriculum Change**
- **FRESH**
- **APNIEVE**
- **Education for Sustainable Development**

APEID PROGRAMMES

- **Higher Education**
- **Teacher Education**
- **Technical and Vocational Education**
- **Education for Sustainable Development (ESD)**
- **ICT in Education**

UNESCO ADVOCACY:

V. EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD)

Decade for ESD (2005-2014)

Vision: "A world where everyone has the opportunity to benefit from education and learn the values, behaviours, and lifestyles required for a sustainable future and for positive societal transformation."

3 PILLARS OF ESD:

- ESD: Socio-cultural Perspectives
 - Fulfillment of human rights
 - Guarantee of peace and human security
 - Gender equality
 - Reinforcement of intercultural/international understanding and of cultural diversity
 - Good health
 - HIV/AIDS prevention
 - Good governance

- ESD: Environmental Perspectives
 - Conservation of natural resources
 - Control of climate change
 - Rural transformation
 - Sustainable urbanisation
 - Disaster prevention and mitigation

- ESD: Economic Perspectives
 - Poverty reduction
 - Corporate responsibility and accountability
 - A "begin" market economy

Key characteristics of ESD

- Interdisciplinary and holistic
- Values-driven
- Focused on critical thinking and problem solving
- Multi-methodological
- Participatory in decision-making
- Locally relevant

ESD: Implications for Curriculum innovation

- Learning outcomes: knowledge, skills, values, behaviours
- Reorienting existing school curriculum
- APNIEVE Teaching and Learning cycle: knowing, understanding, valuing and acting

UNESCO Regional Strategies for ESD

- Transdisciplinary approach
- Innovative approach
- Whole school approach
- Thematic approach
- Partnership approach: APEID, APNIEVE, APCEIU, ACCU, ASPnet, CLC,...etc <http://www.unescobkk.org/index.php?id=961>

HUMAN RIGHTS EDUCATION

- Basic human rights
- Non-discrimination
- Problem solving
- Empowerment
- Human rights principles
- Participatory pedagogies
- Conducive environment
- Relevance to daily lives

Existing Education Programmes

- Civic education (Vietnam, Malaysia)
- Moral studies (Indonesia, Malaysia, Pakistan)
- Legal education (Philippines, China)
- Religious education (Malaysia, Pakistan)
- Values education (Thailand, Philippines, India, Fiji, S. Korea)
- Peace education (Thailand, S.Korea, Philippines)
- Gender and Development education (Philippines)

UNESCO ADVOCACY:
III. HIV/AIDS PREVENTION EDUCATION

Objectives of training manual:

- Analyze basic information, values and practices
- Prepare teaching-learning plans
- Inculcate caring and supportive attitudes towards PLWHA
- Integrate HIV/AIDS prevention ed. in TEIs
- Sharpen teacher's life skills techniques
- Integrate HIV/AIDS prevention and care education into school curriculum.

III. HIV/AIDS PREVENTION EDUCATION: TEACHER TRAINING

Objective: Reducing HIV/AIDS Vulnerability

Modules:

- Basics of growing up
- Unplanned pregnancy and STIs
- Basic facts about HIV/AIDS
- HIV/AIDS, drugs and substance abuse
- Care and support for PLWHA
- Integration of HIV/AIDS prevention education within the curriculum
(<http://www.unescobkk.org/index.php?id=1262>)

WORLD HERITAGE EDUCATION

- Aim: "to encourage young people to take part in the conservation and promotion of world heritage".
- Learn
- Acquire
- Forge
- Play

3 Innovative Approaches to WHE

- World Heritage in young hands
- Arts for Teaching on the Historic Environment
- Cultural Mapping for learning local heritage in the community

WHE Resource Kit

- The World Heritage Convention
- World heritage and identity
- World heritage and tourism
- World heritage and the environment
- World heritage and a culture of peace

The Arts of teaching on the Historic Environment

- Devised in Vigan, 2001.
- Focus of national heritage
- Using a creative approach: visual and performing arts
- Use of activity sheets for students

Cultural Mapping

- Students project on self, family and community
- **Cultural mapping of community**

LEADING AND FACILITATING CURRICULUM CHANGE

Lucille C. Gregorio

IBE and UNESCO NATIONAL Commission of the Philippines

RATIONALES FOR CHANGE

- Multiple dimensions of social change
- Changing vision of society
- Gap between vision and education process
- Increased emphasis on quality
 - Access and quality
 - Focus on relevance
 - Curriculum development = on-going search for quality
 - Ensuring capacity for continued responsiveness

GENERAL TREND IN THE CURRICULUM PROCESS

- Increased consultation with the general public as well as experts at the local level
- The most efficient consultation method is a participatory approach that engages stakeholders throughout the curriculum development process, and not only at the beginning, as is often the case.

COMMUNICATION AND MARKETING OF POLICY CHANGES

- Communicating decisions about educational change to the general public is crucial for proper implementation of curriculum reforms.
- There are limited mechanisms and strategies that are deployed to inform the public of changes in policy.
- The consequence of a misinformed or insufficiently informed public can lead to a lack of understanding of the changes and eventually to resistance.

AN ISSUE OF BALANCE

- Keeping the right balance in decision making and responsibility is an essential part of the success of the educational process

CURRICULUM DEVELOPMENT: A DYNAMIC PROCESS

- Curriculum development is not an exact science. In most cases it is a dynamic process that involves many people, often with different priorities, vested interests and needs.
- Priorities of politicians and parents can be very different, as can the priorities of teachers and employers.
- But it can be argued that each of these groups has a legitimate interest in what is included in the curriculum, and, most significantly, in its outputs
- Curriculum has been a rich source of research and theory for many decades. While the debates has been complex and robust, it has resulted, at least in English-speaking countries, in two prominent models of curriculum development being proposed:
 1. The '**OBJECTIVES**' Model (also referred to as the sequential, rational or behavioural model), and
 2. The '**INTERACTIVE**' or '**DYNAMIC**' model

The Objectives Model conceptualizes the curriculum development as a sequential series of stages

- Stating objectives
- Selecting learning experiences or subjects
- Organizing learning experiences or subjects
- Evaluating – whether objectives have been met

The Interactive Model conceptualizes curriculum development as a less predictable process which can begin with any element or stage. It is a continuing process of interaction, refinement and review.

THE CURRICULUM RESOURCE PACK DEVELOPMENT PROJECT

- Acknowledged the legitimacy of both curriculum development models. It advocates a thoughtful analysis of the context and a consideration of the needs and interests of all stakeholders, within broad range of stages

IMPERATIVES

- Every education system works within its own parameters and traditions, and is guided by its own imperatives, some possibilities are:
 1. Development of healthy, responsible and skilled citizens
 2. Socio-economic development and improvement of living standards
 3. International competitiveness and global integration
 4. Social stability and national cohesion
 5. Economic liberalization
 6. Political transition
 7. Post conflict reconciliation and social reconstruction
 8. Others

Contextualized Imperatives

Which imperative apply to our respective context?

(we have examples from the Curriculum Reform Process in different countries, with its challenges and responses)

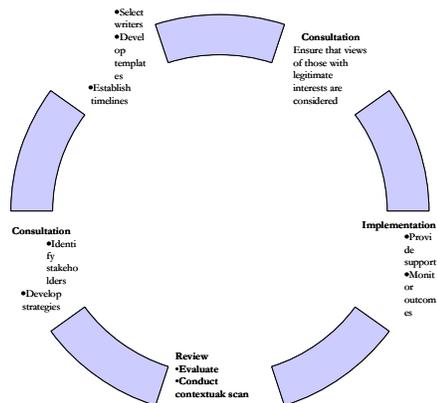
Traditionally, curriculum was often thought of as products: documents that describe content – what teachers should teach.

CURRICULUM AS A PROCESS

- More recently, curriculum developers have given more attention to the **PROCESSES** that produce quality curriculum. This means constructing an effective process that suits the local circumstances and environment, increasing the chances of producing and implementing quality products (syllabuses and eventually learning outcomes)

FROM	TO
Teaching	Learning
Transfer of Facts	Students construction of Knowledge
Memorization of Information Application of	Analysis, Synthesis, Evaluation, Information
Concentration on K Values, Attitudes	Development of Knowledge, Skills, Values, Attitudes
Rote Learning	Applied learning/contextual learning
Categorized Knowledge (traditional subjects)	Integrated content (broader learning areas)
Schooling	Lifelong Learning
Focus on Inputs	Focus on Outcomes
Didactic Teaching methodology'	Teaching strategies incl 'interactive methodology'
Assumption that there is 'one learning style'	Recognition that there are 'preferred learning styles'
Curriculum as a product product	Curriculum as both process and product

An 'ideal' curriculum development process



- It is unlikely, that any two countries or systems develop curriculum in identical ways. As mentioned, developmental processes in each country are influenced by a range of contextual factors.
- Some examples could be shared from our participating countries

Other examples of curricular changes

- Related to Changing Structures, organizing principles and content
- Rationales behind the Changes
- Implications for facilitating and leading changes

However, in all instances the review process is essential.

THE REVIEW PROCESS

Evaluating and Conducting a Contextual Scan

- In most planned curriculum processes, the first step is to have a situation analysis, of the environment and context in which curriculum development will take place
- The processes, goals, and priorities that curriculum developers will adopt depend on the context in which they operate

Contextual Scan

- Current Curriculum
 - SWOT Analysis
- Capacity
 - Expertise
 - Structures and Processes
- Readiness
 - Teachers - preparation and experience
 - Students - expectations and adaptation mechanism
 - Parents - understanding of the need for change
 - Education authorities, governments, other stakeholders - parameters set for curriculum change
- Communication
 - Effectiveness and efficiency in conveying information
- Incentives
 - For students – jobs? Recognition? self-fulfillment/Enjoyment?
 - For teachers – salary? Support? Professional satisfaction?
- Resources
 - Technical
 - Financial

CURRICULUM TRENDS

1. Policy changes: penchant towards decentralization, particularly decision-making and the empowerment of local communities
2. Designing and implementation: towards localization for ensuring relevance of educational content and contributing to decentralization of education, governance and management
3. Structure and Organization of learning content, showing the shift from central control of curricula towards a sharing of decision-making and the involvement of management at lower levels of the education system
4. Continuous evaluation of curriculum to facilitate or improve programs or projects and to ensure standards of quality and effectiveness of educational policies

CAPACITY-BUILDING NEEDS

- **Leadership function**, representing a set of responsibilities for managers and directors involved in curriculum reform
- **Management function**, involving curriculum development managers at central and local levels
- **Operational function**, for district personnel, teachers, inspectors, principals
 - The Resource Pack for Capacity building “Leading and Facilitating Curriculum Change” include analytical tools, trends, analyses modules, illustrative cases as well as sample official national curricular documents. The resource materials are organized thematically or based on issues with supporting illustrative cases/case studies and guiding analytical questions

DEVELOPMENT OF CURRICULUM RESOURCES

Themes/Issues

- New Learning Areas
 - ICT as a learning area and as a tool for learning
 - Comprehensive Health Promotion and Care
 - HIV/AIDS Preventive Education
 - Education for Sustainable Development
 - Conflict management/resolution
 - Consumer/entrepreneurial education
 - Prosumerism
 - others
- Common Learning Areas
 - Science
 - Mathematics
 - Language
- Other Learning Areas
 - Citizenship
 - Social Studies
 - History (heritage)
 - Religion
- Cross-cutting Areas
 - Poverty Alleviation
 - Equity/Inclusive Education
 - Gender mainstreaming
 - Quality from the perspective of EFA
 - Human Rights
 - others

NETWORKING MODALITIES

- Seminars
- Training Workshops
- Collaborative Research/Case Studies
- Virtual (in-line) international/regional/national/local community of curriculum experts
- Formation of the “Community of Practice” (COP)

LEARNING TO LIVE TOGETHER

One of the 4 pillars of knowledge or fundamental types of learning essential to full personal and social development seen not as passive acceptance or tolerance of others but rather as active dynamic, interactive experience of discovering others and working towards common objectives (Delor’s Report, 1996)

CONCLUSION

The school has a central role to play in educating for ‘learning to live together’ but the principles behind the concept have to inform all levels and dimensions of human organization and activity if the ideal is to be realized in a sustainable way. (International Conference on Education, 2001 Geneva)

COMMUNITY OF PRACTICE IN CURRICULUM DEVELOPMENT

Renato Operti

UNESCO International Bureau of Education

QUESTIONS OPEN TO DISCUSSION

- How can we generate settings and opportunities for developing initiatives, maintain efforts under a shared vision and fund-raise resources that help design and implement curriculum changes within an holistic framework of education for all lefa-goal? What are needed institutional conditions for moving forward?
- Which are our expectations of a community of practice in curriculum development as a regionally based initiative? National and local realities. Until to what extent and under what conditions are we willing to participate in a process of collective construction? Can we share the generation and the development of Knowledge?
- A Community of Practice can be visualized as an interregional wide open setting capable of generating processes of collective thinking and action on curriculum issues related to basic education. The renovation and the enlargement of the concept of basic education. How childhood and secondary education are approached and included?
- Discussion of alternatives? Do we generate conditions for critical and constructive thinking? Do we work out agendas of possible and/or necessary reforms? Do we share visions and experiences?
- Do we exchange documentation and research? Do we carry out projects based on concrete and feasible objectives? Do we construct cooperation scenarios among educators coming from different regions? Do we focus effort on enlarging the south-south cooperation?
- If we basically agree on regarding the community fo practice as a good tool so as to improve curriculum change, from which institutinoal and educational frameworks do we implement initiatives? Diversity is an asset? Overcoming traditional dichotomies? Public/Private?



QUESTIONS OPEN TO DISCUSSION

WHICH ROLES DO WE ASSUME?

- Do we contribute to lead and orientate debates clarifying concepts and strategies as well as possible routes of educational change? Do we try to work out a long-term vision about conditions and opportunities for change, including the expected impacts?
- Do we profit from the experiences from inside and outside our own region so as to enlarge and deepen our analytical framework? Do we feed with evidences the discussion around critical issues? Do we contribute to overcome the confrontation with no added value between reformism and anti-reformism?

On what we are trying to advance?

- Contributing to facilitate the generation of an open, plural, reflexive, hard-working and proactive space for the collective construction around the design and the implementation of curriculum changes in basic education.
- Understanding and taking care of diversities as an opportunity to deepen the dialogue and improve the quality of proposals of educational change. What to avoid? Unique thinking, close frames of ideas and initiatives, debates full of ideological rethoric, indifference and/or disdain towards conceptual and/or empirical evidences and their implications.

CONCRETE ADVANCES ON THE INTER-REGIONAL DOMAIN

- A community of practice made until now by near 200 curriculum specialists and developers from all UNESCO regions, with an open and public agenda in order to develop proposals mostly coming from sharing and exchanging among COP members.
- A friendly space for exchanging visions, experiences, documentation, research and information about events with an average of two weekly contacts, a dynamic and proactive role of animating the COP and its development. It is a daily construction process.

CONCRETE ADVANCES ON THE INTER-REGIONAL DOMAIN

- A multicultural space by deepening the multi language exchange, wide open in perspectives and a varied agenda about curriculum development from different institutional and educational visions and approaches. Deep engagement around the idea of pluralism as a core value fo collective development.
- A community of practice section within IBE website - www.ibe.unesco.org/COPs.htm organised around eight main activities animated and implemented by the focal points in the five UNESCO regions.

COMMUNITY OF PRACTICE IN CURRICULUM DEVELOPMENT

KEY ACTIVITIES

1. **Focal Points** in the five UNESCO regions – its objective is to carry out regional activities through the coordination of highly prestigious curriculum specialists and developers.
2. Inter-regional **comparative curriculum research** – its objective is to find out commonalities and differences in attaining a high quality and equitable Basic Education between curriculum processes taken place in different regions.
3. **Approaches by competencies** – its objective is to provide a plural and open space for the inter-regional sharing of experiences of curriculum change and development based on competencies.
4. **Curriculum resource packs** – its objective is to disseminate the Asia-Pacific Resource Pack for Capacity Building activities in curriculum change as well as develop curriculum resources in different regions and countries.
5. **University partnerships** in Basic Education and Education For All (EFA) goals – its objective is to promote and to facilitate the sharing of research about critical issues in Basic Education among universities from different regions.
6. **Forum** on Curriculum Change for Quality in Basic Education – its objective is to carry out an international forum among Community of Practice members aimed at facilitating policy dialogue on key issues in curriculum reform as well as exchange information and share best practices and lessons learned.



7. Community of Practice **animation** – its objective is to share visions, experiences, information and research among the Community of Practice members.
8. Community of Practice **interaction** – its objective is to provide conditions and opportunities for doing varied types of on-lines activities such as e-forums, training programmes and access to networks in curriculum development.

CONCRETE ADVANCES ON THE INTER-REGIONAL DOMAIN

- An inclusive space for orientating and facilitating the debate and the collective construction on curriculum change between varied institutnios and actors (public and private as well). For example, the curriculum transformation in Central America based on the approaches by competencies.
- A linking space for strengthening the horizontal cooperation among educators from different regions and countries. The creation of opportunities for enlarging the south-south cooperation. For example, the comparative study between China and Latin America focused on the curriculum reforms fo basic education.
- A plural space for contrasting and integrating varied reflections on critical themes about the processed of curriculum transformation. For example, the series of e-forums (2005-2006) focused on the approaches by competencies and its impacts involving the participation of multiple institutions as animators fo the debates (Beligan Institute Bief and Canadian Institute Ore from Quebec University). Research about on-going experiences of educational reforms based on competencies (for example, in Africa, Latin America and the CIS countires).
- A productive space by promoting the sharing and the dissemination of documents provided by COP members through the website, the COP newsletter and/or the publications on paper and on-line.

CONCRETE ADVANCES ON THE INTRA-REGIONAL DOMAIN

- A world wide space by establishing regional focal points coordination - until now 2 in Asia, 1 in Gulf Arab States, 3 in Latin America and 3 in Europe-, start-up seminars of the COP centered on curriculum developments about basic education and the involvement of leading scholars and curriculum specialists in the process of setting up the COPs.
- An intellectual space by forging the conformation of sorts of regional think tanks that can lead debates about proposals of educational policy and curriculum development as well as give advise on current processes of educational change, for example, in Latin America, 100 specialists COP members are working on basic education.
- A research space by developing a common line of research around the curriculum processes of basic education within the framework of education for all (EFA) goals. The contrast and the integration of regional perspectives and outcomes based on comparative research.
- A comparative data space through the unification and the integration of conceptual and empirical information around the processes of curriculum change taken place, for example, in the CIS and in the Central American countries).
- A multi language space by promoting publications of COP production on various languages.
- A research space by developing a common line of research around the curriculum processes of basic education within the framework of education for all (EFA) goals. The contrast and the integration of regional perspectives and outcomes based on comparative research.
- A comparative data space through the unification and the integration of conceptual and empirical information around the processes of curriculum change taken place. For example, in the CIS and in the Central American countries).
- A multi language space by promoting publications of COP production on various languages.

LOCAL EDUCATION REFORM EFFORTS IN THE PHILIPPINES: A SITUATIONER

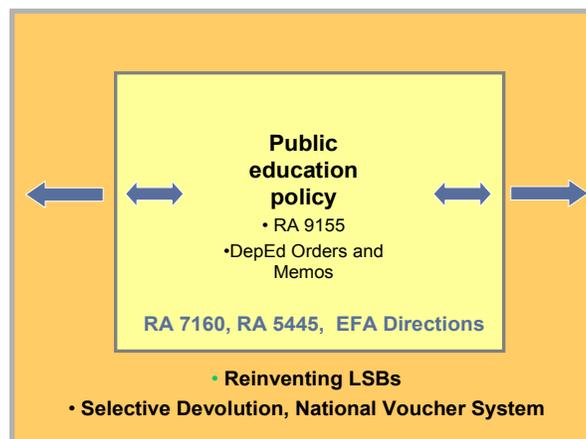
Wilfredo B. Prilles Jr.
Naga City School Board

OUTLINE

- Synergeia and local education reform (movement)
- Reinventing local school boards (strategy)
- The Naga School Board project (case)
- The way forward

CONCEPTUALLY...

Education reform is taking place in a dynamic environment where the box is getting bigger



WHERE WE ARE TODAY

MUDDLING ALONG	TOP-DOWN (BESRA)	BOTTOM-UP (LSB-ANCHORED)
<p>'The more you try to change things, the more they remain the same'</p>	<ul style="list-style-type: none"> Nationally initiated Central control remains Stronger local divisions School-based management 	<ul style="list-style-type: none"> Locally initiated. Inspired by 1991 LGC Leverages SEF to push reforms Highly negotiated process Lacks predictability due to weak policy grounding
<ul style="list-style-type: none"> The 'most durable' scenario 	<p>STRENGTH:</p> <ul style="list-style-type: none"> Has force of national policy 	<p>STRENGTH:</p> <ul style="list-style-type: none"> Demand-driven, hence high level of sustainability
<ul style="list-style-type: none"> Outcome: maintain status quo 	<p>WEAKNESSES:</p> <ul style="list-style-type: none"> Questions on sustainability 	<p>WEAKNESSES:</p> <ul style="list-style-type: none"> Scaling up depends heavily on quality of local leaders
<ul style="list-style-type: none"> DepEd continues to be a welfare agency for 400,000 workforce (and growing) 	<ul style="list-style-type: none"> Exacting accountability on performance remains problematic Skirts local accountability issues re SEF 	<ul style="list-style-type: none"> General ambivalence of most LCEs. Education is DepEd's responsibility
<ul style="list-style-type: none"> Underprovision of public education continues 		

THE WAY FORWARD

NATIONAL VOUCHER SYSTEM PUBLIC

- Expands GASTPE
- STRENGTHS:
 - Taps unused capacities in private schools.
 - Empowers parental choice
 - Strong accountability. Non-performers will be penalized
- WEAKNESS:
 - Will limit access to basic education

SELECTIVE DEVOLUTION OF EDUCATION

- Local control of public education where demanded and feasible
- STRENGTHS:
 - Faster pace of change. Greater local flexibility
 - Clearer public accountability
 - Optimal use of public education funds: (national + local + community)
 - DepEd can focus on a smaller constituency
 - WEAKNESSES:
 - Mixed results of Philippine devolution
 - Politicization
-

TOWARDS GREATER LOCAL CONTROL OF THE PUBLIC SCHOOL SYSTEM

Over the weekend, an engrossing discussion regarding the sorry state of the public school system took place (and continues to) in Dean Jorge Bocobo's blog. The discussion started with the question: If every year the national government spends P120 billion on a centrally-managed public school system that has been underproviding on basic education services for decades, is there a better way?

I say there is, and it is about giving greater local control of the public school system to communities that will demand for it.

Take Naga City, for example, and imagine the possibilities: The P120 billion annual outlay translates to P6,667 per student, or P233 million for the city's 35,000 elementary and high school students. Together with the P40M being spent by the city government annually, with P273 million we can

1. bring down the number of teachers from 1,200 to 1,100 by streamlining the curriculum (which translates to a workable teacher-student ratio of 32); and
2. raise the starting monthly salary of all teachers to P20,000—already higher than what call centers give. But everyone will have to meet higher teacher recruitment standards, start as locally-funded contractual teachers, and will have to prove themselves based on their student's achievement test results prior to regularization. And that is just for starters.

A centrally-managed system for the long run will continue to yield the same inadequate results. Today, DepEd with its 400,000 workforce is the biggest bureaucracy in the national government, and will only continue to grow bigger as it tries to keep up with the rising school-age population. It will increasingly become difficult to manage such a bureaucracy, and expect it to respond to unique challenges that differ by locality. Moreover, there is very little chance to exact accountability over education outcomes from an organization whose local divisions and districts respond more to their regional and national superiors rather than the local communities they serve.

What opportunities come with demand-driven devolution of basic public education?

1. Local officials will become responsible for education outcomes in their respective localities. Non-performing school officials and teaching staff can be removed from service if they continually fail to deliver results. Performance of the public school system becomes an election issue, and parents can choose to remove local elective officials on the basis of unacceptable outcomes.
2. Local control also means greater consciousness over local needs that must be addressed, as well as locally available solutions to priority problems. In Naga, for instance, there is the possibility of creating an expanded voucher system that will optimize existing capacities: putting a cap on ideal class size in the public school system on the one hand, and redirect excess enrolment back to private schools on the other.
3. National and local funding for education can be aligned, and increased. Since the local DepEd and the local government becomes part of a single organization, common education targets can be set, and the resources required to attain the targets allocated more efficiently and effectively. For cities, their national share from the DepEd and the Special Education Fund being allocated through local school boards becomes a common education fund. More so with provinces, which are today's winners in the IRA allocation scheme. (Cities and provinces are entitled to the same level of IRA—23% of the total—but there are now twice more cities than there were 10 years ago. On the other hand, only two new provinces were created over the same period.) Thus, because they become accountable for public education, governors can be motivated to share their Local Development Funds (which is 20% of the total IRA) to augment their comparatively smaller SEFs.

Of course, this scheme has its own pitfalls. One is the country's mixed experience with decentralization under the 1991 Local Government Code, which devolved agriculture, health and social services, as correctly pointed out by a fellow blog commenter. Another is the fear that the system will be politicized. But these are manageable risks.

That is why there is need to implement this selectively, demand being the primary criterion. When local communities and their leaders demand for, and are given local control over public education, it is greater power that comes with even greater responsibilities. But when local stakeholders have a bigger voice in governance—which is what Naga has been pioneering in the Philippines under the leadership of Mayor Jesse Robredo—there are enough mechanisms for ensuring that the local state will behave and exercise this power responsibly.

Wilfredo B. Prilles, Jr., a Ford Foundation International Fellow, coordinates Naga’s Reinventing the School Board project. Married to a public school teacher, three of their kids are enrolled in local public schools. He can be reached at wbprilles@gmail.com. Dean Jorge Bocobo’s blog, on the other hand, can be found at <http://philippinecommentary.blogspot.com>.

CURRICULAR REFORMS: IMPLICATIONS FOR TEACHER PROFESSIONAL DEVELOPMENT

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FLOW OF THE PRESENTATION

- Curriculum definition: revisited
- Curricular development reform movement: towards a thinking curriculum
- Implications of a thinking curriculum to teacher professional development
 - Guidelines in preparing standards
 - Models of curriculum designing
 - Performance-based assessment
 - Collaborative Lesson Study
 - Transactional vs Transmissive Approach to Professional Development

CURRICULUM DEFINITION REVISITED

- Trend: Towards a thinking curriculum
- Traditional vs the thinking curriculum

Curriculum

- All the learning which is planned and guided by the school, whether it is carried on in groups or individually, inside or outside the school.
- The trend: towards a thinking curriculum

Traditional vs Thinking Curriculum

A **traditional curriculum** tends to teach content and process separately.

A **thinking curriculum** weaves process and content, a union that typifies real-world situations; that is, students are taught content through processes encountered in the real world.

Some thinking and learning processes apply across all content areas and all areas of life and thus are generic: for example, decision making, problem solving, evaluating, and comparing.

A traditional curriculum... expects students to master "knowledge" in school; and knowledge is usually seen as lists of facts and definitions.

In a thinking curriculum, students acquire content as they plan, evaluate, solve problems, make decisions,

construct or critique arguments, compose essays, and so on; the content students learn has the power to promote these higher-level processes.

A traditional curriculum does not expect students to use the knowledge until they leave school.

Characteristics of a thinking curriculum

In brief: characteristics of a thinking curriculum

- Its scope promotes in-depth learning
- Content and process objectives are situated in real-world tasks
- Tasks are sequenced to situate holistic performances in increasingly challenging environments.
- A thinking curriculum actively connects content and processes to learners' backgrounds.

Overarching characteristic of a thinking curriculum*

- A thinking curriculum fulfills a dual agenda by integrating content and process.
- Within this agenda, students develop habits of mind with respect to learning that serve them well both in school and in the real world.

* Based on the definition of Lauren Resnick (1989)

Guidelines to Promote a Thinking Curriculum

- **For Math**
- **For Science**

Guidelines are frameworks for performing authentic tasks in the disciplines.

- Learning is a meaningful activity; indeed, that learning is thinking. Thus, all reform efforts advocated moving away from a basic skills curriculum toward curriculum based on a new notion of learning in which students engage in authentic, higher-order learning tasks.
- Our economy is shifting from a traditional industrial base to an information and service base.
- Social arrangements are more fluid now—people move from place to place, families are configured differently, and child-care responsibilities are assumed by different individuals both within and outside the immediate family.
- In the political realm, citizens struggle with difficult issues related to technology, concerns for social equity in a pluralistic society, and the nation's greater interdependence with other countries.
- Successful inhabitants in such a world must make sense of large and shifting bases of information be flexible in adapting to changing environments, work effectively in teams, and truly understand and value groups with backgrounds different from their own.

In sum, societal changes compel educators to create a new curriculum.

The New Standards in Mathematics and a Thinking Curriculum

- Problem Solving
- Reasoning
- Communicating
- Valuing Mathematics
- Feeling Confident in One's Ability

New Standards for Math...

- Throughout the standards, it is emphasized that mathematics should never be taught as a set of abstract, "cookbook" algorithms, but as a living subject striving to make sense of size, order, and shape and attempting to craft tools that help us solve problems. Mathematics is a language for problem solving.
- The standards also articulate those core concepts on which students should focus to be able to use this language in real-life problem solving.

By bringing this focus to the mathematics curriculum, students can engage in sustained problem solving using mathematical concepts in different contexts.

Students are increasingly challenged to use the concepts in solving more and more elaborate problems with less and less teacher support.

- Finally, math educators are encouraged to help students see that they are already mathematicians, and that they often think systematically about space, quantity, and order in their everyday life.

Mathematics is a formal expression and conceptual extension of these everyday experiences.

Guidelines in Developing a Thinking Curriculum for Science

(Adapted from: Project 2061 (AAAS)-Science For All)

- Understanding the scientific endeavor, how it relates to their culture and their lives
- Developing scientific views of the world; students to use their knowledge of science, mathematics, and technology to make their world more comprehensible and more interesting
- Forming perspectives on science; students should see how the powerful ideas of science emerged from particular historical, cultural, and intellectual contexts.
- Establishing scientific habits of mind; if students are to be scientifically literate, they must possess certain scientific values, attitudes, and ways of thinking.
- The guidelines are patently directed at higher-order outcomes in science, as revealed in verbs such as understanding," "forming perspectives," "thinking critically," and so on.

In fact, these higher-order thinking processes are the means by which content is acquired, used, and infused with meaning.

- The guidelines also articulate organizing principles and key concepts, that students should be able to use to develop scientific views of the world.

Indeed, these core concepts enable students to think meaningfully about issues and problems in science.

- Scientific habits of mind cannot be established unless students engage in the real-life task of posing a question, designing an experiment to address the question, and synthesizing the information gathered to develop a defensible answer.
- Students see the scientific endeavor as a fundamental human impulse to explore the environment.

Hence, educators should build on the experiences that students bring to class; help them articulate what conceptions they already have of the natural world; and provide them with real-life, structured experiences where students can rethink or even restructure their conceptions in the face of new evidence and new explanatory ideas.

OTHER IMPLICATIONS FOR PROFESSIONAL DEVELOPMENT

Models for Curriculum Designing

Traditional model

- The teachers starts curriculum planning with interesting activities and textbooks
- The teacher thinks about assessment at the end of the unit, once the teaching is completed.

The Approach we Advocate: Backward Process of Curriculum Designing (BCD)

- Described by Ralph Tyler about 50 years ago.
- The practice was revived by some educators in some countries in the late 90s
- BCD is practiced in the Intel Teach to the Future Training Programs

Backward design model

- Looks at the big picture with the end goals in mind
- The teacher starts with the end, the desired results, and then derives the curriculum from the evidence of learning called for by the expectations and the teaching needed to equip students to perform.
To begin with the end in mind means...
 - to start with a clear understanding of your destination.
 - to know where you're going so that you better understand where you are now so that the steps you take are always in the right direction (Covey, 1994)
 - By having teachers determine what they would accept as evidence that students have attained the desired understanding and proficiencies before proceeding to plan teaching and learning experiences, enables them to remain focused on the desired results.

Some Principles in Backward Curriculum Designing

1. Starts with the end

- The desired results (goals or standards) are identified
- The curriculum is derived from the evidence of learning (performances) called for for by the standard and the teaching needed to equip students to perform.

2. Assessment dictates instruction

- Requires teachers to operationalize the goals or standards in terms of assessment evidence as they begin to plan a unit or course
- Helps teachers clarify their goals in a more sharply defined teaching and learning targets.
- Students perform better when they know their goals.

Stages in the Backward Design Process (The Planning Sequence)

Stage 1: Identify desired results

- What enduring understandings are desired?
- What should students know, understand, and be able to do?
- What is worthy of understanding?

Stage 2: Determine acceptable evidence

This stage specifies the prerequisite knowledge and skills needed by students for them to successfully accomplish key performance

- How will we know if students have achieved the desired results and met the standards?
- What will we accept as evidence of student understanding and proficiency?

At stage 2 ... curriculum planners

- think like an assessor before designing specific units and lessons and thus to consider upfront how they will determine whether students have attained the desired understanding
- consider a range of assessment methods because understanding should be thought of in terms of evidence over time instead of a single moment-in-time test at the end of instruction (*will discuss assessment methods later*)

Stage 3: Plan learning experiences and instruction

- What enabling facts concepts and principles and skills will students need to perform effectively and achieve desired results?
- What activities will equip students with the needed K and S?
- What needs to be taught and coached and how should it best be taught in light of performance goals?
- What materials and resources are best suited to accomplish these goals?
- Is the overall design coherent and effective?

In stage 3... The teacher will address the specifics of instructional planning-choices about teaching methods, sequence of lessons and resource materials, that is, after identifying the desired results and assessments.

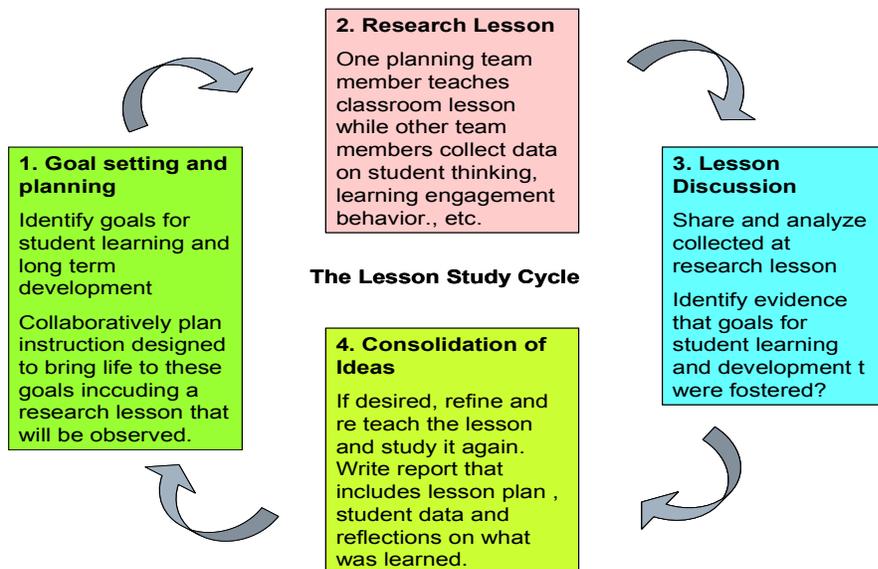
The teacher, having a clear goal can plan and guide purposeful action towards the intended results.

PERFORMANCE-BASED OR AUTHENTIC ASSESSMENT

PERFORMANCE	AUTHENTIC
Requires student's active generation of a response that is observable either directly or indirectly via a permanent product	Refers to "real-world" and "real-life" situations or contexts
Values the learning process as much as the finished product	Requires a variety of approaches to problem solving
	Requires real-world applications of skills and knowledge that have meaning beyond the assessment activity
	Allows for the possibility that a problem could have more than one solution

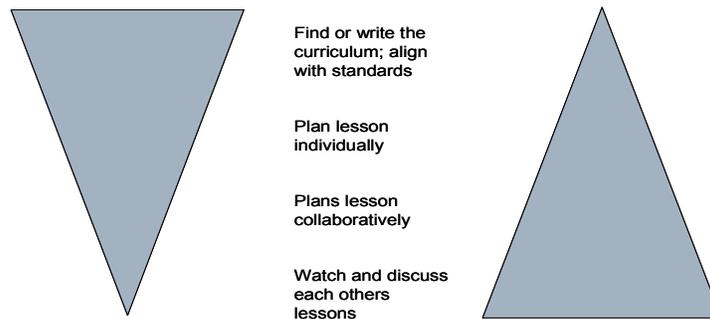
COLLABORATIVE LESSON STUDY

- o A major form of professional development for teachers chosen by Japanese teachers
- o An approach to instructional improvement, now generating interest in other parts of the world
- o A cycle in which teachers work together to consider their long term goals for students bring those goal to life in research lessons, and collaboratively observe, discuss and refine the lessons.
- o Teacher-driven and student focused



Why Lesson Study? Why Now?

- o Brings educational goals and standards to life in the classroom;
- o Promotes data-based improvement;
- o Targets many student qualities that improve learning;
- o Creates grassroots demand for instructional improvement; and
- o Values teachers



**Teachers activities to improve instruction:
which process do you practice?**

PROFESSIONAL DEVELOPMENT: CONTRASTING VIEWS

Traditional

- Begins with answer
- Driven by outside expert
- Communication flow: trainer to teachers
- Hierarchical relations between trainers and teachers
- Research informs practice

Lesson study

- Begins with question
- Driven by participants
- Communication flow: among teachers
- Reciprocal relations among learners
- Practice is research

Transmissive vs Transactional Approach to Professional Development

- o The model of PD used by many projects in the Philippines is the cascading model of training.
- o Oftentimes, trained teachers go back to their former teaching approaches and "habits."
- o A good number of trained motivated teachers implement innovations but are constrained by time, materials required & lack of instructional and/or administrative support.

Transmission approaches

- focus on training & reproduction
- emphasis on INFORMATION

- experts share information to participants

- expert inputs in terms of a new resource focus on development of skills a one-shot deal

Transactional approaches

- focus on capacity building, empowerment and transformation
- emphasis is on INTERACTION a set of resources which participants can adapt and apply

- some stimulus materials available; expert does not deliver but facilitates more interaction, critiquing, reconstructing

- on going interactive activity based on a whole range of practices: theorizing ideas for further development; linking theoretical ideas with practice; teachers reflect, review and reconstruct as work goes on

Need for change...

- o View teacher development as professional, social and personal development.
- o These 3 aspects are intertwined, interactive and interdependent.
- o For change to occur, programs & activities must support all 3 aspects of teacher development.



What does professional development include?

- o use of different teaching activities
- o development of beliefs & conceptions underlying the activities
- o development of subject matter knowledge and skills
- o updating scientific/mathematical knowledge

What does social development entail?

- o the renegotiation and reconstruction of what it means to be a teacher of science/mathematics
- o working with other teachers to reconstruct what it means to be a teacher through sharing experiences and beliefs

What does personal development involve?

- o being aware and accepting of the need for professional growth
- o changing their ideas about what it means to be a teacher of science or mathematics
- o teachers taking more control of their learning and being reflective

The Challenge..

To design PD programs for teachers that foster collaboration, capacity building & reflective practice.

- o How to design PD for learning, empowerment, and transformation
- o How to move from a conception of PD which is static, top-down, & policy-oriented to one which is teacher-centered, dynamic & oriented to the active construction of professional knowledge within contextual realities

“ professional development that does not provide opportunities for teacher-initiation and direction, and which does not lead to meaningful professional learning outcomes cannot be considered as quality professional development from the perspectives of both individual growth and institutional accountability.”

(Macpherson et. al., 1998)

REVISITING THE FOUR 'PILLARS OF LEARNING': ROLES OF THE PILLARS IN THE REORIENTATION AND REORGANIZATION OF CURRICULUM

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INTRODUCTION

Landmarks in Educational Rethinking:

- ➔ **The Fraure Report** *'Learning To Be' (1972): "The alienation and de-humanization in the process of material progress"*
 - “ Educational aim as the 'development of a complete person' as the fundamental aim of education
 - “ Lifelong education
- ➔ **The Delors Report** *'Learning: The Treasure Within' (1996)*

Tensions in education:

 - Between personal and societal
 - Between the local and the global
 - Between cooperation and competition
 - Between the infinity of information and the limitation of human capacity to assimilate knowledge
 - Between spiritual and material
 - Education is a fundamental means to personal and societal development
 - Education providing *maps* of a complex world in constant turmoil
 - Education providing simultaneously the *compass* that will enable people to find their way in it
 - Learning throughout life as 'a key to the 21st century'
 - Full flowering of human potential of individual learner and tapping talents 'hidden like buried treasure in every person'
 - Development of services sector: *occupational skills becoming secondary and human qualities for inter-personal relationships becoming essential*

- Globalization: *the need for preservation of cultural identity and for international understanding*
- If it is to achieve its aims education in the 21st century should be reorganized around four pillars: learning to know, learning to do, learning to be, and learning to live together

I. WHY THE PILLARS: REORGANIZING EDUCATIONAL CONTENT

New Environment of Learning

- New ICT breaking barriers of time and space for global access to updated information by anyone, anytime and anywhere
- New ICT creating learning environment to be configured by the learners for their own needs and learning styles/paces
- Encouraging interaction between teacher-learner, teacher -teacher, learner-experts and man-computer
- Encouraging learners to contribute/publish their own material to the learning environment

New Aims of Learning

- From learning as an instrument for productivity to learning for fulfilment of the complete person, in all the richness of his/her personality
- From developing part of intellectual faculty to fully tap the human potentials 'hidden like buried treasure in every person'
- Learning for creativity and adaptability to change in an uncertain future
- Learning for continued learning throughout life in a learning society
- Learning to live together in peace and harmony in a globalizing world

New Content of Learning

- from teacher-centered to learner-centered curriculum
- from subject knowledge towards intellectual abilities
- from disciplinary-based curriculum to integrated, inter-disciplinary learning
- from *supply-driven* to *demand-driven* learning content
- from individual learning to cooperative learning
- from mastery of itemized information or factual knowledge to acquisition of instruments of knowing
- a new balance of *scientific-technological* and *social-humanistic-cultural* content of education
- a new balance of *general vs. vocational* components of education and *general vs. specialized* training

New Process of Learning

- from linear model of education to cyclical paradigm of study-work alternation and lifelong pursuit of learning
- from 'one-stop' knowledge/degree acquisition at schools/universities to more diversified entries into learning opportunities
- from rote learning, man-machine interaction to more teacher-pupil, pupil-pupil interaction/dialogue and collaborative team learning.

New Types of Learners

- new learners in 'generation gaps', with different values, 'languages', and 'pop-cultures', and in different ways of thinking, reacting, responding and getting motivated
- new generation of learners 'growing digital on the net', with skills and competencies oftentimes better than their teachers in using ICT as powerful learning tools
- new generation of learners of more diverse backgrounds and 'cultural identities' (age, ethnicity, linguistic, economic, religions, working experience, etc.)
- new learners with new traits of independence, creativity, open-mindedness, and enterprising minds

New Spaces/Dimensions of Learning

- *Horizontally*: from schools to work-places, communities, mass media, and other social learning environment
- *Longitudinally*: from early childhood through adulthood to post-retirement years (lifelong)
- *Vertically*: from real to digital and virtual learning environments

II. WHAT THE PILLARS ARE: REDEFINING THE PILLARS IN VIEW OF THE CHANGED LEARNING ENVIRONMENT

- A fundamental reflection and preconception of the roles of education: as means and ends
- A fundamental shift of content from an instrumental view to one stressing the development of all-rounded human beings
- Complementation and interpenetration of one another
- A identification of fundamental skills, competencies, adaptabilities and values needed for a new century
- A set of universal principles for teaching-learning at all levels of formal/ nonformula education and for all phases of life
- A framework for re-organizing educational content and processes

LEARNING TO KNOW

Mastering the Instrument of Knowing and Understanding:

- to learn to learn and to discover
- to understand about his/her environment
- to think in a coherent and critical way
- to acquire a knowledge of the scientific method and instruments
- to develop a scientific spirit and an inquiring mind
- to acquire independence of judgement

LEARNING TO DO

- From skill and 'practical know-how' to competence
- To apply in practice what has been learned
- To develop ability to transform knowledge into innovations and job-creation
- To develop competence, a mix of higher skills, of social behaviour, of an aptitude for team work, and initiative/readiness to take risks
- New types of skills, more behavioural than intellectual
- Function of learning no longer limited to work but responds to participation in development; a matter of social as of occupational skills
- Ability to communicate, to work with others, and to manage and resolve conflicts

LEARNING TO LIVE TOGETHER

- To discover others
- To appreciate the diversity of the human race
- To know oneself
- To be receptive to others and to encounter others through dialogue and debate
- To care and share
- To work toward common objectives in cooperative undertakings
- To manage and resolve conflicts

LEARNING TO BE

- To be human, for development of mind and body, intelligence, sensitivity, aesthetic sense, personal responsibility and spiritual values
- To develop the qualities of imagination and creativity
- The complete fulfillment of man, in all the richness of his personality
- The full flowering of human potential, the tapping of the hidden treasure within each individual
- a very individualized process and at the same time one of constructing social interaction

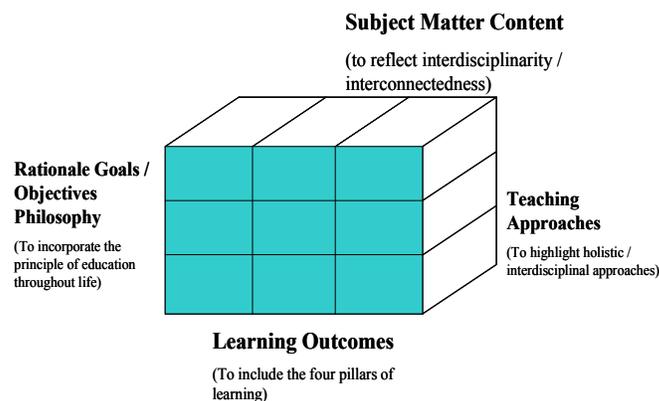
III. HOW: RETHINKING APPROACHES TO APPLY THE FOUR PILLARS IN CURRICULUM

- Using the pillars as a set of universal principles in defining curricular objectives, in facilitating curricular structural changes, and in guiding the reorganization of curricular content
- Using the pillars to define fundamental competencies for a competency-based curriculum
- Using the pillars to develop conceptual framework for re-organization of content
- Translating the competences into learning sequences/experiences in a given learning area through interdisciplinary thematic learning modules
- USING THE PILLARS IN DEFINING FUNDAMENTAL COMPETENCIES: 'a mix of higher skills acquired through technical-vocational training, of social behaviour, of an aptitude for team work, adaptabilities to change, problem solving, and readiness to risks skills....'

For example, competency in science:

- Acquiring basic knowledge of physical laws, chemical formula,
- Acquiring basic skills in doing scientific experiments, etc.
- Developing values of a scientific spirit in the pursuit of truth
- Mastering methodology of scientific inquiry
- Applying the knowledge, skills, values and competencies in solving problems in real situations
- Understanding ethics in the use of scientific discoveries for the interest of human development

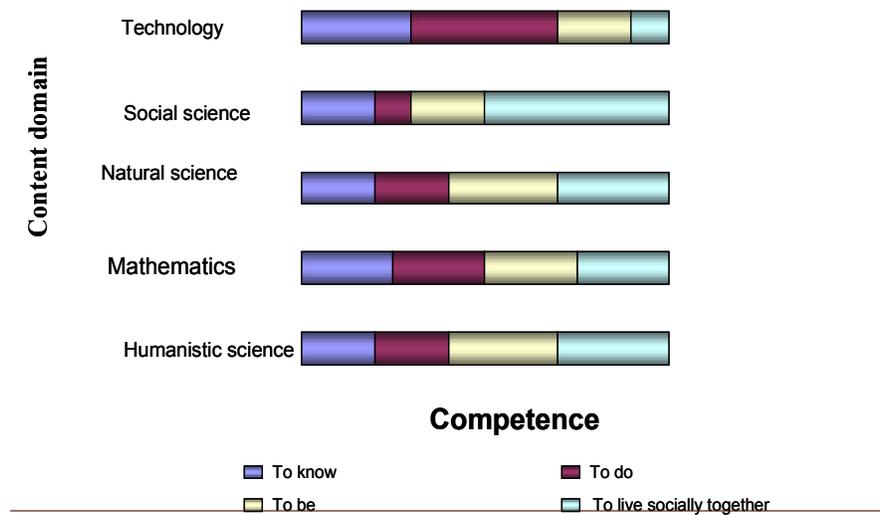
USING THE PILLARS IN DEVELOPING CONCEPTUAL CURRICULUM FRAMEWORK (A Proposed at IBE-PROAP Seminar)



TRANSLATING THE COMPETENCY-BASED CURRICULUM FRAMEWORKS, STANDARDS INTO ACTUAL LEARNING CONTENT

- Defining learning areas and study of themes aimed at integrating knowledge and abilities through skill-based learning and problem-solving
- Structuring knowledge in 'Learning Domains' à Subjects/courses à thematic teaching-learning modules/integral learning units (as 'curricular blocks') in order to develop the intended competencies (knowledge, skills, values) of individual learners
- The Mongolian experiences in transforming its school curriculum in light of the four pillars of learning

Chart on the Relationship between Education Content and Fundamental Competencies: a Mongolian Model



STATUS OF MADRASAH EDUCATION IN THE PHILIPPINES AND ITS DEVELOPMENT AND INSTITUTIONALIZATION AS A COMPONENT OF THE PHILIPPINES SYSTEM OF EDUCATION

Manaros B. Boransing
Undersecretary for Mindanao Affairs
Department of Education, Philippines

DEVELOPMENT AND INSTITUTIONALIZATION OF MADRASAH EDUCATION

The standard curriculum for elementary public schools and private Madaris had been approved and prescribed by the Department of Education under DepED Order No. 51, s. 2004. The Autonomous Region in Muslim Mindanao (ARMM) had adopted the national standard curriculum by virtue of ARMM RG Executive Order No. 13-A, s. 2004. With these issuances, Madrasah educational system has now been upgraded as a vital component of the national educational system, similar to the Christian and Chinese schools systems.

BASIC MADRASAH EDUCATION: PHILIPPINE MODEL

1. Curriculum:

Learning Areas:

- **For Public Schools:**
 - Arabic Language - 60 minutes/daily
 - Islamic Values - 40 minutes/daily
- **For Private Madrasah:**
 - Qur'an
 - Aqeeda and Figh
 - Seerah and Hadith

DepED Order No. 51, s. 2004 Standard Curriculum for Elementary Public Schools and Private Madaris

Public School

- English
- Math
- Science
- Filipino
- Makabayan

Add: Subjects:

- Arabic Language
- Islamic Values

Private Madaris Islamic Studies/Regions

- Qur'an
- Aqeeda and Figh
- Seraah and hadith
- Arabic Language

Add: RBEC Subjects:

- English
- Math
- Science
- Filipino
- Makabayan

2. Instructional Materials

- Curriculum Framework:

10,000 copies Printed and funded by UNICEF

- Textbooks

Printed and funded by World Islamic Call Society (WICS) of Libya

Arabic Language Grade - 270,000

Islamic Values Grade 1 - 270,000

Arabic and English Translation- 10,000

3. Teacher (Asatidz) Training and Professional Development

- **Level 1** : Pre service- Language Enhancement and Pidagogy (LEAP), a 23 day Live in Training Workshop.

Teacher (Asatidz) Trained 2005-2006

➤	Funded by BEAM (AUSAID)		
•	ARMM	-	160 Asatidz
•	Region 11	-	165 "
•	Region 12	-	180 "
	Sub-Total		505 "
➤	Funded by TEEP/WB/DEPED:	= = = =	
•	Region 10	-	130 "
•	Region 9	-	72 "
•	National Capital Region (NCR)		133 "
•	Region 6 (Iloilo City)	-	23 "
•	Region 4-A (Antipolo City)		45 "
•	Region 4-B (Puerto Princesa)		5 "
			408 "

	Total to Date -	-----	913 "
		= = = =	

- **Level 2** : In service Training and Professional Development An Accelerated Teacher Training Program (ATEP) for a 12 month schooling while teaching.Asatidz shall earn the equivalent of a Bachelor of Elementary Education degree.

- **Teachers (Asatidz) Undergoing Training Now:**

➤	Funded by BEAM (AUSAID):		
•	at USEP - Davao City	-----	92
•	at MSU - Marawi City	-----	115
•	at MSU - GenSAN	-----	54

	TOTAL -	-----	261
		= = =	

- **Level 3** : Professional Teacher – The ATEP will qualify theAsatidz to take the Licensure Examination for teachers (LET), and if they pass, they shall be professional teachers at DepED with permanent teacher items.
 - Program for Teacher Education with additional majors in:
 - Arabic Language
 - Islamic Studies
 - Establishment of an Islamic Institute for Teacher Education

4. Reforms and Development of Private Madaris:

- DepEd Recognition and Accreditation
- Secular Education (RBEC) in Madrasah
- Private Madrasah as non-stock non-profit Islamic Educational Institution.
- Incentives for Private Madaris to Adopt and implement Standard Curricular for Private Madrasah as per DepED Order No. 51, s. 2004.
- Encourage Private Madrasah to charge reasonable tuition fees for students with affluent parents and Scholarship Fund Endowment for poor muslim students.
- Donor Assistance to Private Madaris
 - BEAM (AUSAID) ————— 22 Madaris
 - ASCEND Mindanao (USAID)——— 7 Madaris
 - Creative Associate (USAID)——— 8 Madaris

5. Advocacy:

- Massive information arise to all stakeholders including LGU, members of congress, NGOs, Donor Community and the Media
- Consultation/briefing meetings with all Sectors of the Muslim communities, including muslim countries and International Islamic Organization.

6. Fund Sourcing: Received and/or Committed

- The Asia Foundation - - - - - P 1,750,000.00
- SEAMEO Innotech - - - - - 2,000,000.00
- UNICEF - - - - - 1,000,000.00
- TEEP/WB - - - - - 25,000,000.00
- BEAM (AuSAID) Expanded Support
for Muslim Education - - - - - 160,000,000.00
- World Islamic Call Society of Libya
(for Printing Instructional
Materials – 10 yrs) - - - - - 480,000,000.00
- Philippine Government: GAA -2006
DepED - - - - - 100,000,000.00

7. Program Management:

- DepED ARMM:
 - Bureau of Madaris
- DepED National:
 - Office of Undesecretary for Muslim Affairs
 - Madrasah Education Unit Integrated into:
 - Bureau of Elementary Education (BEE)
 - Bureau of Secondary Education (BSE)
 - Regional Offices
 - Division Offices

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