

Four ‘Pillars of Learning’ for the Reorientation and Reorganization of Curriculum: *Reflections and Discussions*

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Introduction

In achieving the goals of quality education for all (EFA) there is a great need to develop a broadened vision of educational goals, to facilitate holistic approaches to reorganizing educational contents, and to build national capacity in developing key competencies required of all learners through curriculum renewal in emerging knowledge-based societies of the 21st century.

In an information-intensive age, education is mandated to respond to demands in two directions: on the one hand, it has to transmit an increasing amount of constantly evolving knowledge and know-how adapted to a knowledge-driven civilization; on the other hand, it has to enable learners not to be overwhelmed by the flows of information, while keeping personal and social development as its end in view. Therefore ‘education must ...simultaneously provide maps of a complex world in constant turmoil and the compass that will enable people to find their way in it’. (Delors *et al*, p85).

Curriculum change has become increasingly important, inasmuch as it is essential that what students learn is relevant to them as individuals and members of society, in their present and future contexts. It lies at the center of educational processes in enabling learners to become not only successful learning achievers at school but also responsible citizens, effective workers, caring community members, and life-long learners, in an increasingly interdependent world.

This paper is intended to reflect on the four pillars of learning, as proposed by the International Commission for the Twenty-first Century, in its Report (Delors *et al*) to UNESCO, *Learning: The Treasure Within*, and to discuss their implications for curricular change both as guiding principles for and cross-cutting themes. A central argument is that if education is to succeed in its tasks, curriculum as its core should be restructured or repacked around the four pillars of learning: *learning to know, learning to do, learning to live together, and learning to be*.

Redefining Curriculum and Curriculum Change

Curriculum is a critical factor affecting educational quality and learning achievement. Numerous research studies have shed light on main factors affecting or accounting for learning achievements, or quality of education. In an input-process-outcomes framework, curriculum content and textbooks and learning materials are among the major school inputs. They are also a major dimension of quality education (UNESCO, 2004). The concern to renew curriculum has been at the heart of the world-wide efforts in improving quality of education for all.

There are varied definitions of ‘curriculum’. For one, curriculum may mean ‘the way educational content is organized and presented in classroom and after-school activities to meet different learning needs’. In changing educational and development contexts, curriculum is no longer merely ‘a conveyor or product of a particular body of knowledge’ but ‘a dynamic process of actual learning acquisition and inquiry of the unknown through teacher-learner interaction and cooperation’. From a pragmatic viewpoint, curriculum could be seen as both process and product, comprising all learning and other experiences that the school or education system plans for its learners. As education influences and reflects the values of society it is necessary to recognize a broad set of common values and purposes that underpin curriculum.

It is important to take note of the changing nature of curriculum development as ‘an ongoing process

aimed at organizing better learning opportunities and thus focuses on actual interactions between the teacher and the learner' (IBE, 1999). It implies continuing efforts in translating educational goals into appropriately designed learning materials, activities and observable behavioral changes. Varied curriculum development models have been applied for fundamental reorganization or repackaging of curriculum content and delivery method.

'Curriculum change' in this Resource Pak is defined as 'a dynamic process involving many stakeholders and responding to diversified learning needs as well as social demands' Using the four pillars of learning as fundamental principles and cross-cutting themes is intended to be an alternative approach to the facilitation of curriculum change through resetting objectives, identifying/selecting key competencies, and integration of relevant knowledge, skills and values across curriculum areas or learning domains.

Revisiting the Four 'Pillars of Learning'

In order that the essence of the four 'pillars of learning' be appropriately interpreted, a brief snapshot follows of what each relates to in term of educational context.

Learning to know

This type of learning is radically different from 'acquiring itemized codified information or factual knowledge', as often stressed in conventional curriculum and in 'rote learning'. Rather it implies 'the mastering of the instruments of knowledge themselves'.

'Acquiring knowledge in a never-ending process and can be enriched by all forms of experience'. 'Learning to know' includes the development of the faculties of memory, imagination, reasoning, problem-solving, and the ability to think in a coherent and critical way. It is 'a process of discovery', which takes time and involves going more deeply into the information/knowledge delivered through subject teaching.

'Learning to know' presupposes learning to learn', calling upon the power of concentration, memory and thought', so as to benefit from ongoing educational opportunities continuously arising (formally and non-formally) throughout life.

Therefore 'learning to know' can be regarded as both a means and an end in learning itself and in life. As a means, it serves to enable individual learners to understand the very least enough about the nature, about humankind and its history, about his/her environment, and about society at large. As an end, it enables the learner to experience the pleasure of knowing, discovering and understanding as a process.

Learning to do

This pillar of learning implies in the first place for application of what learners have learned or known into practices; it is closely linked to vocational-technical education and work skills training. However it goes beyond narrowly defined skills development for 'doing' specific things or practical tasks in traditional or industrial economies. The emerging knowledge-based economy is making human work increasingly immaterial. 'Learning to do' calls for new types of skills, more behavioral than intellectual. The material and the technology are becoming secondary to human qualities and interpersonal relationship.

Learning to do thus implies *a shift from skill to competence*, or a mix of higher-order skills specific to each individual. 'The ascendancy of knowledge and information as factors of production systems is making the idea of occupational skills obsolete and is bringing personal competency to the fore'. Thus 'learning to do' means, among other things, ability to communicate effectively with others; aptitude toward team work; social skills in building meaningful interpersonal relations; adaptability to change in the world of work and in social life; competency in transforming knowledge into innovations and job-creation; and a readiness to take risks and resolve or manage conflicts.

Learning to live together

In the context of increasing globalization, the Delors Commission places a special emphasis on this pillar of learning. It implies an education taking two complementary paths: on one level, discovery of others and on another, experience of shared purposes throughout life. Specifically it implies the development of such qualities as: knowledge and understanding of self and others; appreciation of the diversity of the human race and an awareness of the similarities between, and the interdependence of, all humans; empathy and cooperative social behavior in caring and sharing; respect of other people and their cultures and value systems; capability of encountering others and resolving conflicts through dialogue; and competency in working towards common objectives

Learning to be

This type of learning was first conceptualized in the Report to UNESCO in 1972, *Learning To Be* (Edgar Faure *et al*), out of the fear that 'the world would be dehumanized as a result of technical change'. It was based on the principle that 'the aim of development is the complete fulfillment of man, in all the richness of his personality, the complexity of his forms of expression and his various commitments – as individual, member of a family and of a community, citizen and producer, inventor of techniques and creative dreamer'. 'Learning to be' may therefore be interpreted in one way as learning to be *human*, through acquisition of knowledge, skills and values conducive to personality development in its intellectual, moral, cultural and physical dimensions. This implies a curriculum aiming at cultivating qualities of imagination and creativity; acquiring universally shared human values; developing aspects of a person's potential: memory, reasoning, aesthetic sense, physical capacity and communication/social skills; developing critical thinking and exercising independent judgment; and developing personal commitment and responsibility.

It is important to note that the four pillars of learning relate to all phases and areas of education. They support and interpenetrate one another and should therefore be applied as basic principles, cross-cutting themes and generic competences for integration in and across subject areas or learning domains.

Pillars of Learning for Reorienting Curriculum Objectives

Generally speaking, school curriculum seeks to achieve two broad aims: one to provide equal opportunities for all pupils to learn and to achieve, for best possible progress and at the highest attainment. The other is to promote learners' spiritual, moral, social and cultural development and prepare all pupils for the world of work and societal responsibilities.

Curriculum objectives are derived from over-arching educational goals, which address human development at both *personal* and *societal* levels. On one hand education is a very individualized process, whose stages correspond to those of the continuous maturing of the personality. On the other hand, it represents 'a process of constructing social interaction' (Delors, p. 95). From this perspective the four pillars of learning indicate broad goals of education in a new century and could thereby reorient the setting of curriculum objectives.

Firstly, the pillar of 'learning to be' reflects a shift from an *instrumental* view of education, as a process one submits to achieve specific aims (e.g. economic productivity), to a *humanistic* view of education that emphasizes the development of the complete person, in short, learning to be' (Delors, p.86). They imply an educational aimed at all-rounded development and full flowering of the human potential of individual learners. Thus school curriculum should be more balanced, taking into account not only the cognitive-intellectual dimension of personality but its spiritual, moral, social skills and values aspects.

Secondly the pillars of learning stresses an important educational goal in contributing to social cohesion, inter-cultural and inter-national understanding, peaceful interchange, and, indeed, harmony. 'These are the very things that are most lacking in our world today' (Delors). This goal therefore implies a radically new curriculum domain, in which relevant knowledge and a range of skills and values should be taught and caught to resolve and manage conflicts for peace in family, at school, in community and in the world

at large.

Thirdly, the pillars of learning imply an educational goal in developing a learning society in a new century. The concept of learning throughout life emerges 'as one of the keys to the twenty-first century' and 'the only way of satisfying it is for each individual to learn how to learn'. The shift from 'schooling' to learning throughout life implies that school education is only part or a phase of the learning continuum and curriculum should therefore not attempt to 'teach' or cram the young minds with discipline-based details, apart from the fundamental knowledge, basic skills and universal values which will prepare the pupils for further learning.

Fourthly, the pillars of learning points to a goal for much closer linkage between education and the world of work. This not only concerns 'learning to do' but other three pillars of learning as one central function of education is to prepare young learners to be successful workers and responsible citizens in their adulthood. School curriculum can no longer be purely academic and college-bound; it has to impart employable skills, and positive attitudes toward work, and to develop competency in adapting to change, which is 'the only thing which will not change'.

Pillars of Learning for Reorganizing Curriculum Content in Terms of 'Key Competences'

Curricular changes are meant to develop a set of key competencies as defined in curriculum objectives and standards. Over the years there have been debates at national and international level over a range of issues concerning the redefinition of desirable 'competency' in planned curriculum change, and the identification/selection of key competencies required of all learners. The four pillars of learning are much relevant to curriculum change as they embody a set of new key competencies to be inculcated among all learners in an emerging knowledge-based society.

Defining Competence

In an educational context, a competence could be defined as 'the ability to meet complex demands successfully or to carry out an activity or task' (Rychen and Tiana). This demand-oriented or functional definition is supplemented by an understanding of competencies as 'internal mental structures of abilities, capacities and dispositions embedded in the individual' (Figure 1).

It is important to note that the term 'competence' represents a holistic concept, which is defined differently from that of 'skill', which is used to designate an ability to perform complex motor and/or cognitive acts with ease and precisions. The term 'competence' denotes 'a complex action system encompassing cognitive skills, attitudes and other non-cognitive components'.

From this perspective, each of the four pillars of learning provides a range of generic competencies to be developed through curriculum and instruction.

Identifying and Selecting Key Competences

More challenging than defining 'competence' is the identification and selection of 'key/core competencies'. There have been multiple, diversified perspectives from different academic disciplines.

Figure 1

The demand defines the internal structure of a competence

**Internal structure of
a competence related to cooperation:**

- ? ? Knowledge
- ? ? Cognitive skills
- ? ? Attitudes
- ? ? Emotions
- ? ? Values and ethics
- ? ? Motivation

?

CONTEXT

Demand-oriented competence

Example:

Ability to cooperate

[Source: *Definition and Selection Competencies: Theoretical and Conceptual Foundations* (DeSeCo)]

For example, from *socio-psychological* viewpoints, humans are defined as adaptive, social beings, and individuals are looked at in a cultural, social and linguistic context. 'Key competence' therefore implies effective interaction in relation to the physical, social and cultural world. *Philosophers* might address 'key competencies' from a reflective perspective and define them at an abstract level that are generally independent of culture, context and personal characteristics. From a *sociologist* perspective, core competencies imply empowerment of individuals and groups to preserve their autonomy and exercise their rights without infringing on that of others, and to cope in and across various social fields. *Economic theories* could also be used to interpret 'key competencies' that workers needs to increase productivity and succeed in the labor market, with success defined in the 'maximization of ! income' and 'return to education' in financial terms, and an emphasis on knowledge/skills resulting in increased competitiveness in the market.

Multiple perspectives from various academic disciplines have moved towards interdisciplinary insight and common understanding of key competencies. 'Key competences' is thus used to designate generic competencies that enable individuals to participate effectively in multiple contexts or social fields and that contribute to and overall successful life for individuals and to a well-functioning society'. They are defined as 'being necessary for everyone'.

One approach to the reorganization of curriculum content is to identify or select fewer but broader, coherent and sound set of key competencies and integrate them across learning domains, instead of developing long list of competencies to be covered in all subject domains. In school settings, key competencies could be categorized in two main groups (Tiana, 2004):

- a) curriculum-bounded competencies, such as ability to communicate with others, basic science/math skills, computer literacy and media competence, and capacity of situating in the world of individual; and
- b) cross-curricular competencies, which include metacognitive competencies, intra-personal competencies, interpersonal competencies, and positional competencies (coping with complexity and dealing with diversity/change).

From this point of view, the four pillars of learning offer a broad framework of cross-curricular competencies which should be require of all learners to acquire, including, but are not confined to, the following:

- 1 competence in collecting, selecting, processing and managing information
- 2 competence in mastering instruments of knowing and understanding
- 3 competence in effectively communicating with others
- 4 competence in adapting oneself to changes in life
- 5 competence in cooperatively working in teams
- 6 competence in resolving conflict through peaceful dialogue and negotiation.

Pillars of Learning for Repackaging Learning Modules in Integrated Approach

The four pillars of learning are not only conceptual as some have assumed; they are neither merely principles in guiding curricular changes. In effecting actual curriculum change or promoting experimentation, the four pillars of learning could be used as both cross-cutting themes and essential learning outcomes in repackaging curriculum modules or learning units or rebuilding 'curriculum blocks'

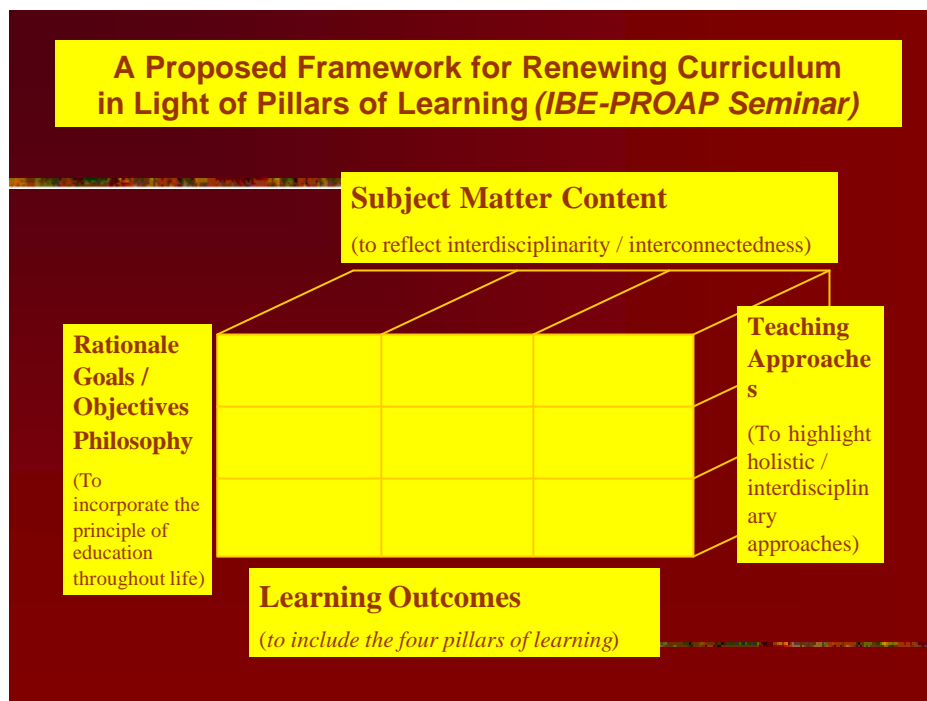
The Training Seminar on Capacity Building for Curriculum Specialists in East and South-East Asia (IBE-PROAP, 2000) proposed a conceptual framework for renewing curriculum in light of the four pillars of learning (Figure 2). Curriculum objectives incorporates the principle of learning throughout life. Subject matter content is no longer organized on basis of individual disciplines but more in an interdisciplinary or integrated approach. Learning outcomes are not expressed merely in test scores but in terms of knowledge, skills, values, or competencies as embedded in the pillars of learning.

Both the Chinese case study (Zhu, M.J.) on integrating 'learning to live together' across secondary school curriculum areas and the case study on Mongolian experience in curriculum reform (Luvsandorj, 2005), both included in this Resource Pack, attest to the fact that it is highly feasible to apply the pillars of learning in repackaging educational content in all school subjects and/or through curriculum modules or learning units and thereby actually implementing curriculum change.

It seems that there could be two approaches to the application of the four pillars of learning to the repackaging of learning content in terms of generic competencies to be inculcated among all learners:

One is to design curriculum content of individual school subject and related learning units in terms **Figure 2.**

A Conceptual Framework of Renewing Curriculum in Light of the Pillars of Learning



[Source: IBE-PROAP Regional Training Seminar on Basic Education Curriculum Reform in the 21st Century, Bangkok, Thailand, 12-16 December 2000]

of fundamental *knowledge*, basic *skills* and universally shared *values* which are pertinent to the key competences as implied in the four pillars of learning. This approach is undertaken in the Chinese case, in which 'learning to live together' breaks down to set of knowledge, skills and values, and then integrated/included in such individual school subjects as history, geography, foreign language, literature, environmental studies, and moral education.

The other is to redesign learning modules or units, or curriculum blocks', which teachers and learners could use in light of the nationally set curriculum standards. For example, in facilitating 'learning to learn', modules or units or even a course could be designed to develop connections between disciplines and enable students to see knowledge as an inter-related coherent whole, as implied in the interpenetration of the four pillars of learning. This might be illustrated by the course on 'Research-Based (or Exploratory) Learning', offered in reformed Chinese school curriculum, and in the IBO MYP course, 'Approaches to Learning'. Central to both the curricular innovations is 'learning how to learn', and developing in individual learners an awareness of how they learn best, of thought processes and of learning strategies (Perkins, 1992). This area of interaction goes beyond traditional study skills and include s! uch competencies inherent in the four pillars of learning: collaboration skills; attitudes toward work; communication; reflection; problem solving and thinking skills; and subject-specific and interdisciplinary conceptual understanding. Learning content and method reorganized in such integrated approach help students develop the range of their capacities (Gardner, 1999), positive attitudes and effective habits of mind and should lie at the core of all curriculum development and delivery.

Conclusion

The four pillars of learning provide an excellent basis for curriculum change in basic education in nationally and regionally-specific contexts. If applied and adapted appropriately within the contextual settings, these pillars will add great value to the relevance of curriculum content and the effectiveness of

curriculum implementation.

The four pillars of learning could be perceived and applied as fundamental principles in reorienting the setting of curriculum objectives.

The four pillars of learning embody a range of new key competences which should be required of all learners to be developed through the reorganized curriculum content.

As cross-cutting themes, binding threads, and essential elements in integrated curriculum, the four pillars of learning could be used in actual curriculum repackaging through development of relevant curriculum modules across learning domains.

However, the four pillars of learning remain largely a conceptual framework and points of reference in experimentation with curriculum change. It will much depend on concerted efforts by educational policy-makers, curriculum specialist, teachers and other stakeholders of education to translate the pillars of learning into renewed curriculum objectives content and delivery method in contributing to the achievement of educational goals through meaningful curriculum changes.

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