

Competencies in Curriculum Development

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Curricular changes are meant to develop a given set of relevant key competencies in light of educational aims within broad context of societal development as well as human development of individual learners.

Over the years there have been debates at national and international level over a range of issues, especially concerning:

- a) definition, redefinition, of 'competency' in information-pervasive learning environment
- b) identification or selection of core/key competencies appropriate to learning at primary and secondary school level or stages of life in childhood, adolescence/youth and adulthood, as reflected or integrated/embedded in curricular objectives and standards
- c) evaluation and assessment of key competencies as outcomes of changed curriculum and through appropriate indicators.

Defining 'Competency'

Literature review and systematic analysis of existing theoretical and conceptual approaches to 'competence' lead to consensus, as Weinert (2000) concluded in his comprehensive overview, that 'there is no basis for a theoretically grounded definition or classification from the seemingly endless inventory of the ways the term competency is used. One will be equally disappointed if one restricts research for a common core to only scientifically based definitions of the concept of competency. Many different theoretical approaches exist and meanings vary depending on perspective and underlying objectives associated with the use of the term both in scientific discussion and in the policy discourse. (Weinert, F. E. 2001, *Concept of Competence: a conceptual definition*. In: Rychen, D.S.; Salganik, L.H., eds. *Defining and Selecting Key Competencies*, p46. Seattle, WA: Hogrefe & Huber).

In light of the conceptual problems and debates on definitional issues, D.S. Rychen and A. Tiana (2004) proposed 'a functional approach to competences', as adopted for the Swiss-OECD initiative Definition and Selection of Competencies: Theoretical and Conceptual Foundations (known as DeSeCo jointly carried out by the Swiss Federal Statistical Office and the Organization for Economic Cooperation and Development). This conceptualization is 'holistic' in the sense that it integrated and related external demands, individual attributes (including ethics and values) and context as essential elements of competent performance (Figure 1). (D. S. Rychen and A. Tiana, 2004, *Developing Key Competencies in Education: Some Lessons from International and National Experience*, Geneva: UNESCO-IBE, Studies in Comparative Education.)

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

?

Demand-oriented competence

Example:

Ability to cooperate

Source: Definition and Selection competencies: Theoretical and Conceptual Foundations (DeSeCo)

In this context a competence is defined as ‘the ability to meet complex demands successfully or to carry out an activity or task’. 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’. Therefore, each competency defined from this perspective corresponds to combination of interrelated cognitive and practical skills, knowledge, motivation, values and ethics, attitudes, emotions, and other social and behavior components that together can be mobilized for effective action in a particular context’ (D.S. Rychen and A. Tiana, 2004, p21).

It is important to note that the term ‘competence’ represents a holistic concept, which is defined differently from that of ‘skill’. The term ‘skill’ 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’ (Rychen &Tiana, p22-23).

From this perspective, each of the four pillars of learning implies a framework of competencies to be developed in curriculum and instruction. For example, ‘learning to do’ implies

- 1 competency in applying what has been learned in classroom to actual life situations;
- 2 competency in developing and using vocational/work/life skills to cope with problems

- in employment and daily life;
- 3 competence, a mix of higher skills, of social behavior, of an aptitude for team work;
- 4 competence of initiating and taking risks;
- 5 competence in communicating and working with others
- 6 competence in developing personal commitment to work.

Identifying and Selecting Key Competences

The Delors' Commission set as its mission the development of broad and long-term visions of 'what education for what kind of society in the 21st century'. From its encompassing points of view, the four pillars of learning are conceived not only as guiding principles of the reorganization of educational structures and systems but as essential elements or cross-cutting themes of educational contents and methods. Individual competences are recognized as essential ingredients in social cohesion and economic development.

More challenging than defining 'competence' in national/local-specific contexts is the identification and selection of 'key/core competencies'. There have been multiple, diversified perspectives from different academic disciplines (instructional/educational psychology, pedagogy, economics, sociology, philosophy, anthropology, etc). Curriculum policy-makers might view 'key competences' from different angles as curriculum specialists and educational practitioners, who in turn would differ as well from science scholars, parents, future employers and the public as to what desirable competencies should be developed in the young learners.

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. 'Competence' there implies effective interaction in relation to the physical, social and cultural world. 'Effectiveness' is not only related to technical performance, but to the interpretation of context and meaning.

Competencies seen from this perspective may include such attributes as adaptability to changes, sense of responsibility, self-sufficiency and capability of making commitment. 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.

From an anthropologist viewpoint, 'key competencies' are considered as general qualities required by modern life, with a focus on interactability of specifying competencies at a level that can span cultures, social contexts and individuals, and at a level that would also be useful for developing methods of measurement' (Rychen and Tiana, pp12-13)

Economic theories and empirical approaches could also be used to interpret key

competencies that workers need 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 thereby an emphasis on knowledge and skills that will result in increased national competitiveness in international market.

Multiple perspectives from various academic disciplines have moved towards interdisciplinary insight and common understanding of key competencies. 'Key competences' is used to designate competencies that enable individuals to participate effectively in multiple contexts or social fields and that contribute to an overall successful life for individuals and to a well-functioning society' (Rychen and Tiana, p22). They are defined in OECD countries as 'being necessary for everyone'.

Based on research studies and broad-based debates, the DeSeCo initiative identifies nine key competencies within a three-fold categorization: 1) acting autonomously (with focus on rights and identity); 2) using tools interactively (with the world through physical and socio-cultural tools, including language, information/knowledge, and technology); and 3) functioning in socially heterogeneous groups (including the ability to cooperate, the ability to relate well to others and the ability to manage/resolve conflicts).

As applied to education, school curriculum is a major means of developing key competencies for life in modern society, and it has always a challenge to transfer competencies to educational practice.

A very central issue in defining curriculum in terms of students' competence is to identify or select a coherent and sound set of key competencies to be developed by individual learners.

Key competencies to be developed among students are mostly identified through learning domains or dimensions of school curriculum. Tiana (2004) categorized key competencies in two main groups:

- 1) 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
- 2) cross-curricular competencies, which include metacognitive competencies, intra-personal competencies, interpersonal competencies, and positional competencies (coping with complexity and dealing with diversity/change).

There have been different approaches to the selection, inclusion and translation of key competencies into discipline-based school subjects or interdisciplinary cross-cutting curriculum domains.

One trend approach to curricular change is to select fewer but broader competencies, and integrate them across learning domains instead of identifying long list of competencies to be covered in all subject domains.

The four pillars of learning provide a broad framework of key competencies appropriate to

an integral approach.

Curriculum aims deriving from educational goals

School curriculum comprises all learning and other experiences that each school plans for its pupils. As education influences and reflects the values of society, and the kind of society its citizens want to be, it is important to recognize a broad set of common values and purposes that underpin the school curriculum.

Generally speaking, a balanced and broad school curriculum should achieve two broad aims:

- 1) to promote pupils' all-rounded personal development, intellectually, morally, socially, culturally and physically and to build pupils' capacity of continued learning throughout life.
- 2) To contribute to sustainable societal development through preparations of all pupils for learning /education at higher level, for the world of work and for responsible citizenship, in successfully adapting, individually and collaboratively, to economic, social and cultural changes at local, national and global level.

Education is 'a very individualized process and at the same time a process of constructing social interaction, (Delors et al. p95). Therefore, the two curriculum aims should be interpreted as interdependent, which complement/support each other within a coherent policy framework and oriented towards/by educational goals.

The four pillars of learning represent and reflect new educational aims/goals common to all education systems in a new century:

- 1) education is for all learners to learn to be, to be truly 'human' and to be 'a complete person', as the Delors Report states: 'A broad, encompassing view of learning should aim to enable each individual to discover, unearth and enrich his or her creative potential, to reveal the treasure within each of us. This means going beyond an instrumental view of education, as a process one submits to in order to achieve specific aims (in terms of skills, capacities or economic potential), to one that emphasizes the development of the complete person, in short learning to be" (Delors et al., p86).
- 2) Education is for all learners to learn to live together in harmony and in peace. There has always been conflict through history but new circumstances have led to increasing incidents of conflicts and the world is confronted with unprecedented challenges to human society. 'Learning to live together' implies an education which will take two complementary paths: on one level, gradual discovery of other, "teaching at one and the same time, the diversity of human race and an awareness of the similarities, all humans"; and on another, experience of shared purposes throughout life and cooperative undertakings through participation in sport or in cultural/social activities, which will be an effective way of avoiding/resolving latent conflicts.

