The integrated person

How curriculum development relates to new competencies

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Foreword

Some years ago the Consortium of Institutions for Development and Research in Education in Europe (CIDREE) decided to issue a yearbook in which important and relevant themes would be examined in depth and to which specialists working within the themes would be invited to contribute. In this way, it was felt that specialised know-how obtained by members of the sixteen (semi-)governmental institutions could be presented in an accessible manner for a general readership.

This is the fourth volume in the series, which began with three books dealing respectively with new trends in education, the absorption of immigrants into the educational system, and educational ambitions of Europe.

The CIDREE institutions are all, in one way or another, deeply involved in curriculum development approaches and so the choice of addressing the concept of basic competencies was an obvious and self-evident one.

All the institutions that are members of CIDREE are fervent proponents of European collaboration in education. They are particularly involved in reviews and innovations on what children and youngsters should learn at school. Via collaborative projects, exchanges of experiences, by discussing and comparing the practices in different countries, CIDREE is in a pole position when it comes to the identification, the development and the implementation of new tendencies. Currently, the concept of basic competencies – and how this concept is understood by different actors – is subject of a broad debate. I am convinced that the variety and richness of the contributions in this book is part of the best that can be offered in Europe nowadays.

In order to guarantee the objectivity of the contributions the authors were specifically requested not to write from the perspective of their organisation or institute but to formulate comments and conclusions from the perspective of their personal areas of expertise.

Dr Roger Standaert
President of CIDREE

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Introduction

Jos Letschert

The changing face of education

This new CIDREE yearbook fits very well in the themes of the yearbooks originated until now. All themes deal with aspects of the changing face of education. This yearbook focuses on competencies we expect from pupils to cope with expectations and needs of post-modern societies and to fulfil their individual well-being. The assumption is that factual knowledge is so fleeting and that the amount is so uncontrollably large, that education can better focus on methods of knowledge acquisition and meta-cognitive skills, instead of overestimating the process of transferring knowledge. Core curricula in CIDREE member states tend in a direction of abandoning specified content schedules and core objectives, in favour of broader goals, often indicated as competencies to obtain or to aim at.

It seems a general trend that national curricula (national documents regulating teaching and learning) are increasingly based on or shifting to the definition of *competencies* to be acquired by pupils, rather than on the definition of (e.g. cultural, scientific, artistic) *contents* to be learned. The country contributions in this yearbook make this trend clear, and so do other internationally oriented sources. For example, OECD (2001) states that the importance of knowledge, skills, and competencies to individuals and society is widely accepted among policymakers in OECD countries. At least at the discourse level, a well-educated, knowledgeable, highly qualified citizenry is seen as playing an eminent role in facing the challenges of the present and the future.

This change of intentions from content acquirement to the development of competencies has been influenced by changing views on learning and teaching, from behaviouristic approaches to constructivist ways of creating meaningful knowledge. Changing expectations of the specific tasks of education in society also influence it. The CIDREE Yearbook 1, on new outlooks on education (Letschert, 2001), is dedicated to that subject.

The competence lifecycle

The field of education is, like other sciences, strewn with concepts, theories and philosophies in order to make it accessible, manageable and understandable. In this process of understanding we see a coming and going of buzzwords. These words try to interpret thoughts that are relevant in the contemporary context and curriculum policy.
'Competence' is a relatively new term, which allows us to broaden our educational thinking to personal functioning and well-being. Klep and Van Haperen state in their contribution in this yearbook that competence is slightly contrary to the classical objectives in terms of knowledge and skills based on the common subject canon. Nevertheless they notice and illustrate that various references to competence can be found in existing and older descriptions of objectives.
Educational concepts and related terms have a certain lifecycle, which is roughly divided in two periods of time: a period of turning up and developing, and a period of turning down and weakening. The time of the whole period is not predictable, but mostly it is noticeable when the first half of time has been used. The concept 'competence' still seems to be in the first half of the cycle, but the first spores of the process of concept-inflation are recognizable and indicated by some of the authors in this book. The destiny of a lot of innovation attempts and related concepts is that they are burned out before you really had the pleasure to warm to them.

In the case of competence-based education we have to admit that the concept still seems to be more apparent in policy documents and educational handbooks than in regular schools. Nevertheless we also notice that the evolving policy approaches, educational theories, and societal and business expectations in this respect, are gradually influencing the contemporary practice of teaching and learning. Authors in this yearbook make this clear too, but of course not without warning for the potential pitfalls, originating from complex processes like these. It is well known (Fullan, 2001; Goodlad, 1994; Van den Akker, 2003) that the way from an intended curriculum to an implemented and attained curriculum can be considered as a 'long way to Tipperary'. Wide differences occur between intended curricula and the actual implementation of these, even if an intended curriculum is fixed and compulsory, for example in the form of core objectives, standards, or a national programme.

Standardization and competence-directed orientations: two different worlds?

An interesting point in the contemporary debate about quality assurance in education, is whether and how the challenges of competency development relate to the demands of standardization. The German educationalist Thürmann describes in this yearbook a remarkable discord in this respect. At the one hand, state authorities take a firm stance on issues such as accountability, quality management, standards and assessment. On the other hand, there is a stronger focus than ever on the individual school to take care of its own affairs being endowed with more responsibility in educational as well as in organisational matters and with a modest budget for teacher training. The German educator Hameyer (2004) wonders in a recent special of the magazine 'Grundschule' if standardization in education is a realistic, manageable and desirable solution for the complexity of educational claims. He discusses if the apparently logical and unbounded standardization in technology and design, is also a suitable panacea for educational dilemmas.
American research (Ogawa et al., 2004) shows the frequently symbolic effects of standards instead of a substantive value: 'Though standards tend to be developed and adopted at the national and state levels, the decisions and actions of local districts and schools ultimately have the most influence on how standards affect instructional practice. The seemingly rational approach to a standards-based curriculum may actually serve more symbolic than substantive purposes, and, in cases such as this, implementation of a standards-based curriculum ironically may work against the primary aim of enhancing students' academic achievement'. Standardization itself is often subject of confusion, because it is an ambiguous concept. In that sense it is comparable with the confusion of ideas related to competence development. Standards can be considered as performance standards, or as a definition of desired outcomes. Standards can also be considered as fixing the curricular content. In that respect they are more demanding on the teacher than on the learner.

Are competence-driven curricula a better answer than, for example, the standards approach to the complexity of societal and personal demands, and how do school systems respond to these demands? Are we talking about something new and challenging, or is it again old wine in new barrels? What are the new questions and problems raised by this

competence approach? The German contribution of Thürmann in this book gives, among other interesting attempts in CIDREE-countries, points of departure for a debate about the changing face of the contemporarily concept curriculum in which competencies play a central role. Thürmann however is also sceptical about the political readiness to arrange radical systemic reforms in the educational system, necessary to realize desired outcomes.

The kaleidoscopic character of competence

In this book, which we consider as a quest, we invite you to follow the different approaches and the variety of attempts by CIDREE members to explain and to implement competence-directed orientations in their curricula and in their school practice. We invite you to compare their answers and solutions with your own thoughts, ideas and experiences. One of the most important challenges for the next years will be how competence-based education will come into the heart of education, instead of staying only in the body of politics. How can we make connections between the supra (e.g. European) and the macro (national) level of politics, the meso level of schools and institutions, the micro level of the classroom, and the nano level of the individual learner? In other words: How do we get through the loam layers between political ambitions, school efforts, societal needs and bring about factual effects on the learner? How can we arrange that pupils become more competent by the serious efforts made in all the distinguished layers?

The Hungarian contribution of Vass describes an attempt in the form of a three-levelled system from national frame working to curricular and methodological support and local content regulation. He gives an interesting insight into the attempts for a dovetail of the distinguished levels. It is interesting to see of course, how the three levels can cope in the long term without conflicts about ownership and autonomy. Other country reports give us insight into similar approaches, conflicts of interest, evolving rapprochements between policy levels, each embedded in their specific tradition and context.

It is intriguing to see how changing societal needs, expected competencies and paradigmatic shifts in thinking about processes of learning and teaching, meet each other in national and international educational policy and processes of quality assurance. We have been familiar for decades with systems of education determined by seemingly stable features like:

- organisation in age groups
- teacher dominance
- focus on the average development of pupils
- use of educational tools and textbooks
- subject orientation
- transmission of knowledge from teacher to pupils
- long lasting stability of knowledge
- specific goal orientation
- overestimation of the attention for shortcomings
- formal and external evaluation and control-based school inspection
- large-scale (international) comparative assessment.

At the moment we see a shift towards:
- more tailor-made educational arrangements
- esteem of individual development
- teachers as facilitators and companions
- pupils taking responsibility for their own learning process
- challenging learning environments
- orientation on broad learning and goal areas
- relevancy of knowledge
- importance of meaningful knowledge and knowledge construction
- development and appreciation of competencies
- lifelong learning
- encouragement of strong points by pupils
- reappraisal of educational approaches
- school-based assessment
- supportive role of the Inspectorate.

These changes do not originate obviously. The country studies in this book make clear how old views on learning and teaching are competing with new approaches and insights. All processes have their own dynamics and starting points, inspired or limited by tradition, national policies, possibilities, constraints, facilitations and not at least by beliefs. How we want to see ourselves is in fact the most important question in curriculum policy. The answers are diverse, often unbridled, always challenging to discourse. Transparency of the underlying concepts of philosophies and thoughts helps to get a better understanding of the main principles, agreements and distinctions in the diverse situations in CIDREE-member states. In a developing common European educational policy, understanding diversity is possibly the most desirable competency to strive for, in contrast to a strong focus on generalisation and equalisation.

The teacher ambiguity

Teachers are unmistakably important and crucial factors in the sketched alteration, but we should not take their tasks lightly. Teachers themselves are products of a system they are supposed to change.
The Boston College professor Andy Hargreaves states (Hargreaves, 2003) that we are living in crucial times, when the world in which teachers do their work is changing profoundly. He calls teaching a paradoxical profession. Of all jobs that are or aspire to be professions, he states, only teaching is expected to create the human skills and capacities that will enable individuals and organizations to survive and succeed in today's knowledge society. Teachers, more than anyone else in Hargreaves' opinion, are expected to build learning communities, create the knowledge society, and develop the capacities for innovation, flexibility and commitment to change, that are essential to economic prosperity. At the same time, he states, teachers are also expected to mitigate and counteract many of the immense problems that knowledge societies create, such as excessive consumerism, loss of community, and widening gaps between rich and poor. Somehow, teachers must try to achieve these seemingly contradictory goals at the same time. This is what Hargreaves means with the professional paradox.

Teachers are operating in an educational system under great strain. Failures in society are often supposed to be repaired by education, or, even worse, they are attributed to the poor investments of teachers. In the period of strong centralized steering by detailed national curricula, core objectives and specified assessment and test instruments, we have deprofessionalized out teachers, by making them less responsible for the educational process than they were before. During the Dewey lecture at the AERA Annual Meeting 2002 in New Orleans, Stanford professor Elliot Eisner confronted his audience with the statement that, where we used to design the curriculum before, today the curriculum seems to be designing us. During the discussions around the introduction of the English common core curriculum, the dominance of the centralised requirements laid down in the curriculum was experienced and expressed by teachers as an act of shunting their professional competences (Dainton, 1996; Lawton, 1996). Besides that, or maybe as a result of it, teachers feel neglected in their professionalism. Parents no longer automatically agree with teachers. On the contrary, parents and teachers are often diametrically opposed. In the movement towards more competency-based curricula, we have to be aware of the nostalgic opposition from parents too, who reflect on their own traditional education and compare it with

what they come across in the schools of their children. We also have to be aware of the fact that proposed changes appeal to the recruitment of teachers and investments in teacher training. Several authors (e.g. Thürmann in this book and Hameyer, 2004) stress this issue and communicate their concern.

Competence-based curricula

Referring to authors in this book (e.g. Thürmann, Klep and Van Haperen, Svecnik, Van Woensel) we can repeat that the trend to more competence-based curricula does not entirely come out of the blue. The efforts to define competencies instead of contents to be taught can be seen as an unmistakable shift in thinking about the focus of education and the expectations of it. The competence-driven approaches have recently received significant impetus with the growing emphasis on lifelong learning (European Commission, 2002). See in this respect the Norwegian contribution in this book. The authors Rye and Thorbjørnsen describe the concept of lifelong learning as a steering factor in the curriculum reform in Norway.
The Austrian contribution e.g. states that the rate of participation in education after the age of compulsory schooling in Austria has risen from approximately 80% some 25 years ago to 98% today. Young people are to be empowered, using the competencies acquired in school education, to assert themselves in all lifestyles, not only at the workplace by strengthening their competitiveness on the labour market, but also in shaping a meaningful private life and in making a worthful contribution to society in several respects.

Our knowledge society does not expect or accept a one-layered interpretation of knowledge. There is an obvious need for a diversity of meaningful knowledge. In his contribution the Hungarian professor Csapó distinguishes between expert knowledge, literacy and competency. He provides us with a historical and clarifying insight into the emerging development of attention for the organization of knowledge in the cognitive sciences. Csapó states that within the systematization of knowledge three main organizing principles are to be differentiated. One is when the system of knowledge unfolds around *the logic of a specific field*. Another possibility is when the organization is determined by *culture,* surrounding social context, and personal interactions. Finally, the most natural organizing force stems from *the psychology of human learning,* that is the way in which our brain represents the things we know. These principles may also be interpreted as three dimensions. Any

kind of organized knowledge can be situated within this three-dimensional space. This means that each dimension is present in all kinds of organized knowledge, to different extents. Csapó warns us for a kind of fashionable use of the concept of competency, and he invites us to stay close to its scientific roots.

The development of competencies, not only in the context of formal schooling, is a notorious necessity for contemporary societies and their participants. In the Dutch introduction to the notion of competence, Klep and Van Haperen state that the classical canon of knowledge, divided in subjects, is insufficient for complex societies. They emphasise the need for competencies, which they define as one of the conceptualisations of being human. This conceptualisation competes with thinking in terms of stable, unchanging knowledge and skills. In their opinion, the development of competencies bridges the gap between the classical contrast of theory and practice, and makes it possible to comprehend the immense variety of human functioning. The Dutch authors make clear that it is rather difficult to give a strict and unmistakable definition of competencies and competence development. They see the concept of competency more as a challenging field of meaning, instead of a restricted and marked out area.
Indeed, concept confusion or concept devaluation is a risk in the ongoing debate on competencies. In the contributions of the different authors in this book we can see the context dependency of the concept. Competency is sometimes a synonym for learning-psychological dimensions and meta-cognitive thinking, for acquisition of basic skills, for cross-curricular aims and objectives, or it is seen as a time-bounded term for an educational reform or for theories, foreseeable to be converted in a certain period of time.

The shift to a more competency-based approach to teaching and learning is not only noticeable in the way intentions, goals and aims are formulated in curricula, but also in how results of learning processes are followed and measured. The Welsh author Griffith explains in his contribution the use of new measurement instruments, which tend to measure competencies instead of factual knowledge. Pedagogical diagnosis is changing from its original medical background with a focus on deficiencies into an attitude to foster the strong points and to encourage pupils (Grabbe, 2004).

Intensive international work has been started (see Van Woensel and Valle) in order to define and select those competencies that could be

generally accepted, as the most needed ones in the emerging learning and knowledge economy. The perspective, however, is not only an economic one. The Dutch Education Council (Onderwijsraad) states in one of its latest reports (June 2004), that in Europe not everything is focused on economic growth. Solid and tight social cohesion is also an important issue. The understanding of a European identity is important for the creation of acceptance for further development.
Besides their impact on teaching skills and attitudes, these notions also have an impact on the development and implementation of curricula. Competence-driven curricula are grounded on different principles and paradigms, such as outcome-based curricula. The main difference is that the curriculum is no longer a protocol, but rather an indicator for change and a blueprint for the way we want to define ourselves. If we have serious intentions to shift to more competency-based ways of teaching and learning, we have to rethink the processes of curriculum development and curriculum policy fundamentally. The onset to interactive, cooperative and democratic processes of curricular redefinition is noticeable in most of the contributions in this book, which makes it valuable for a variety of stakeholders.

Curricular scope and balance

Curriculum development can be defined in terms of a smaller scope (the development of a protocol), or in terms of a broader scope (a comprehensive process of change and innovation). In the essays of the CIDREE authors, curriculum and curriculum development will be understood in the latter sense. We join the vision expressed by the American educationalist Carson in 1989, that a curriculum should be seen as an opening up of possibilities that enable learning, rather than the management of expected outcomes.
The general view is that the curriculum is meant to support and facilitate the development of the learner. All efforts are focused on supporting that process. Measurements at the macro level, the state or national level, are supposed to strengthen the chances and possibilities for learners. Of course, societal and political outlooks colour the curriculum, as do tradition and cultural contexts.
In nearly all cases, curricula result from the mixing of retrospection, reflection and progression. For example, all curricula give ample attention to our cultural heritage, to present-day society, as well as to the preparation of pupils for the future. When dealing with these components of the curriculum mix, great variations in emphasis are found.

The core question in curriculum development therefore is to achieve a workable balance. This balance will never be a permanent one, but should have to be refound repeatedly. The balance is continuously shifting. The present day will gradually become history. The future is gradually turning into reality. Each newly struck balance will be disturbed at a later stage, when once again a new balance will have to be achieved. Within this process, there are many degrees of freedom and various interested stakeholders. This is what makes curriculum development an exciting, challenging and difficult, but above all a continuous process, which cannot be directed purely by market demand. It supposes 'acting knowingly' of government authorities that determine the scope or a framework for increasingly independent schools.

During this whole balancing process, the following issues are considered (Letschert, 2004):

- connecting suitable pedagogical and educational starting points and concepts to the shifting *public views, values and standards* that develop in the evolving society. The question is: what kind of people do we want to be and how can we help to achieve this through education and upbringing?
- offering *intellectual challenges* to each pupil to make education attractive, motivating, and effective for pupils, society and business
- *materialising* the pedagogic, educational and content-related views in advanced teaching materials, in learning environments that are not limited to the physical school environment, and in didactical approaches that put the motivation of the pupils first
- *application of new views*, for example after brain research on how people learn, and from other disciplines concerning how, why and what people learn, and how we may promote learning in our educational system. During this process less than fruitful polarisations often occur, when strongly subject-oriented parties oppose those fractions that emphasise the stimulation of competencies that go beyond subjects (reductive views versus holistic views)
- justification of experiences of users (teachers and pupils), their practices and results, and the adjustment of the *usability* of the curriculum. Usability is a very underrated criterion in curriculum development, especially where the available learning time is concerned
- creating a *consistency* between the various curriculum components, such as the rationale, the goals, the contents, the learning activities, the teacher's role, the educational tools, the ways of grouping, the locations, the applicable age groups and the evaluation methods

- *weighing the relevance* of the curriculum for pupils, and for the economic, social, cultural, and spiritual society in which they grow up.

This balancing process is loaded with values and prone to multiple interpretations. In this respect the Austrian contribution (Svecnik) states that multiple opinions and opportunities in a dynamic and complex environment, combined with a loss of binding values and standards, have prompted the educational system to respond, so as to include all individuals and give them the competencies they need. As a result, this will often lead to highly differentiated and sometimes opposing views of actors taking curriculum decisions. Looking at it this way, curriculum development will almost always suffer from interferences by mutually interacting historical, phenomenological, ontological, political, economical, cultural, gender-related, ethical, ethnical, philosophical, and ideological components within curriculum dimensions. In addition, national system features and traditions have an unequivocal effect.

Curriculum: an inspiring plan

The curriculum does not reflect reality. The curriculum is a design of conditions, on the basis of which challenging learning can take place. Learning should be exciting. If pupils are not challenged, sooner or later you will lose them. This 'losing of pupils' is something we see all too often in our present educational system. Bored pupils become annoying pupils. The most important cause for uninspired learning lies in the Cartesian dualism of modernist thinking, in which knowledge is severed from its context (Damasio, 1994). Knowledge has become a separate item, disconnected from its context (Toulmin, 1990). If curriculum plays a role in uncoupling meaning and learning, it is necessary to repair the connections. Curriculum should inspire, as basic intention.

A curriculum is a design that indicates which competencies are foreseen and how learning and teaching can take place. A curriculum is a spider web of a learning and teaching rationale, aims and objectives, intended activities, the relations between the activities, the organisation, the role of the teacher, the materials and sources, the locations, the available time and the distribution and the evaluation (Van den Akker, 2003). In curricular perspective the views on how we want to be as human beings and what competences we aim at are as important as the debate on core objectives, learning to read and write and the outcomes of large-scale

comparative research, like the OECD-programme for international student assessment PISA.

The curriculum describes how the above-mentioned components relate to each other, are connected and can be organised effectively. A curriculum describes the conditions for learning and teaching. Curriculum development is an important conditional phase in the process of school development. In that sense, it is important that a curriculum evokes inspiring and vivid images of education. A curriculum has to challenge and to excite teachers. They finally shape the curriculum ideas into real education and pedagogy.

Curricular handicraft

Obtaining a clear view of the principles, contents, structure, usability, intentions, functions, and relevance of the curriculum, is very similar to the processes as they occur in another not always very comprehensive concept: that of art (Letschert, 2004). Curriculum development, at every distinguishable level, is similar to the activities related to art. Both concern design processes, based on inspiration, the giving of meaning, divergent thinking, and a wealth of ideas. Both working fields finally focus on the integrated person.
The processes used in art and curriculum development are characterised by experiments, problems of composition, and concerted quests to find a balance between form, content, function, meaning and origin. Like the arts, curriculum development knows classical, academic approaches, where unity of form is important and where the product is the central issue, next to experimental developments that move along and across the borders of what used to be the curricular domain. In the case of experimental developments, the process of development is far more important than the actual product. In addition, like the arts that break new grounds, it takes a while for such curricula to become widely accepted.

Curriculum development is an *art*. However, like art, it requires learning and skill – in one word: *ability*. An inspired choreographer can entice a dancer to perform masterful images of movement. The condition is that both understand the dancing techniques, can interpret the communication of dance, and are able to make variations upon the basic positions. A dancer has to go to extremes in daily practice in order to realise what seems so effortless during the performance. ‘Art and ability’ are inseparable – also in curriculum development.

The curricular craftsmanship can be recognized in the process of bringing coherence in the diversity of curricular layers and design components. Curriculum development in a broad sense focuses on more than one layer and on many components in the complexity of the educational field. Besides craftsmanship, curriculum development is just like art, also a field of science. The field is complex, diffuse, complicated, interwoven and intertwined.
Curriculum developers have to deal with choices of what has to be learned (*curriculum substance*). In this debate on priority and posterior, the tension between a knowledge-based and a competency-based approach comes to the surface. You will notice that in the diversity of the country studies in this CIDREE yearbook.

Curriculum developers also have to deal with the stakeholders (*levels of concern*), their specific interests and with the connection between their claims. Finally, curriculum developers themselves need new and effective competencies to conduct the orchestral pandemonium of expectations, challenges and constraints (*virtuosity*) and to excel in a balanced, harmonious and well-understood sound.

Trends in curriculum policy

In curriculum design many questions have to be answered which have to do with curriculum policy. Curriculum policy can be considered as knowingly acting in a process of quality assurance concerning the content of education.
Looking at curriculum policy, we observe certain shifts in trends, which occur simultaneously in a number of countries (Le Métais, 2003). These trends concern the management philosophy of educational policy, the views on content and implementation of reforms, and the scope of the curriculum. Typified more subtly, the shifting curricular orientation is manifested from:

- protocol to a way of being
- supply to demand
- directive to transformative
- rational to relational
- school centred to society oriented
- prescriptive to challenging and inspirational
- reasonable parts to a meaningful whole.

Besides these trends there are more drivers for changing features of curricula. The Austrian contributor Svecnik also points out a shift in the

life cycle of curricula. In the past, he states, this cycle was approximately ten years. Today, rapid changes in society and in science make it necessary to adapt curricula earlier and more often. The Hungarian author Vass asks for our attention for the trend of localising curricula and the consequences for educational policy. The prudent search for balance between central steering and local responsibility and ownership can be seen as an international curriculum issue. The Welsh author Griffiths in his contribution, it is mentioned already, brings the necessity of a clear and tangible system of evaluation and assessment to our attention. The traditional instruments are not fully effective in a competency-based curriculum. The development of key-skills has to be made transparent in order to steer and to follow the learning and teaching processes. Instruments like portfolios e.g. are introduced to replace assessment tools and procedures that are no longer sufficient.
We have to consider these developments in the light of national, but certainly also in the perspective of European policy. In the Spanish contribution the author, Valle, describes the development of an emerging European educational policy and he gives an overview of the dominant reports in that process. The Flemish author Van Woensel provides an introduction to one of the activities of the European expert group B on key competences in stage one: the definition of the concept 'new basic skills'. Europe is ambitious. We already referred to the Lisbon-ambitions and we would also like to refer to the preceding CIDREE yearbook 'Becoming the best' (Standaert, 2003) on educational ambitions for Europe. We think the theme of this yearbook again fits perfectly well in the line of thinking and sharing ideas of the previous volumes.

Looking for the integrated European

Most CIDREE institutes play an important role in devising and revising national curricula. The trends mentioned above have far reaching implications for the work the institutes are doing and even more for the development of education in each specific context and in Europe in general. Interesting issues and questions are raised in the contributions of the authors from the participating CIDREE institutes. Each author has chosen a specific focus and describes developments from the context he or she is working in. Together, we think, the collection of essays gives a vivid image of how Europe is dealing in an educational perspective with the challenges of the current and prospective times, with a competent and integrated person in mind.
This brings us to the title of this CIDREE yearbook. In Norway educational reform began in 1993 with a consecutive curriculum that

promoted the integration of a diversity of human features. The perspective of the Norwegian curriculum was and is an integrated and balanced person, who is able to take responsibility for himself, herself and others, who is able to work and study with perspective and understanding, and who has the ability and willingness to take on new challenges. This Nordic curriculum can be considered as a precursor of the contemporary emphasis on competence-based development in education and schooling. As a tribute to that Norwegian initiative, we give this yearbook the title 'The integrated person'. It makes clear the importance of coherence in education and the relation between what the Germans distinguish so delicately with the terms 'Bildung' and 'Ausbildung'.

It is not our intention and not our capability to find or to give final answers in this book to how we should see the competencies of European civilians of the twenty-first century. In fact, we even prefer raising questions to giving answers. Just as in education, putting a good question is more difficult and challenging than giving an answer. Being curious, interested, motivated, challenged, are in our opinion the main competencies for the pupils, who we prepare for their roles in society and business. In that process we have to deal with lots of issues and questions addressed by the authors in this book, such as:

- the need to understand the differences between expert knowledge, literacy and competency in order to find ways to deal with them in the organization of education
- the urge of finding new balances between cultural literacy, moral and social behaviour, societal and business skills
- the challenge of discussing relevance of existing and forthcoming educational contents and aims with respect to the curriculum load and the relevancy for learners
- the long and windy road of gaining insight into the sustainable effects, the transferability, the applicability and the usefulness of competencies, especially in comparison with what sometimes is indicated as 'old learning'
- the shift from recovering old, to inventing new pedagogical approaches and learning environments that encourage pupils instead of demotivating or boring them
- the urgency to develop encouraging instruments for pedagogical diagnosis, instead of assessment and diagnosis that are focused on finding and emphasizing deficiencies
- the quality of teacher training

- the intriguing, but also bumpy path of implementing the results of new strategies and theories on learning in daily practice
- the seemingly mission impossible, but nevertheless extremely important assignment to integrate the expectations of pupils, parents, society, business and schools in one meaningful educational context for all participants.

As said before, we are not as arrogant as to suppose that we have found final answers to these essential questions. We hope we succeeded in clarifying the issues that are playing a part in the ongoing struggle on our way to the integrated and competent human being. The final answer is not in the least the most interesting element in this search. Just like in the quest for the grail, the solution lies in the process of searching.

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Competence: conceptual explorations

Joost Klep, Toon van Haperen

Summary

Literature (cf. Merriënboer et al. 2002) and websites about competence show a great variety of meanings and definitions of the word competence. Many authors conclude that unity of opinions does not seem to exist and thus add their own definition to the selection.
In this contribution to the CIDREE yearbook, we are not looking for the common essence of all the opinions, nor will we try to arrive at one adequate definition. Instead we intend to depict the array of meanings in a language oriented philosophical tradition and find out whether a structure in the many opinions can be found. The reason for this approach is the idea that in the rather new field of competence most authors present ideas from a specific point of view or a specific field of education. Looking for the essence may lead to omitting important aspects of competence in specific fields.

In this article three basic choices are central:
- What is the meaning of competence in educational contexts: in basic education, vocational education as well as in-service training?
- What different interests and perspectives are used in regard to competence and what is the relation with views on education and learning?
- What implicit or explicit ideas on how competence thinking happens concretely in education exist? Particularly when it comes to the assessment of whether a pupil/student is sufficiently competent.

These premises are analysed and result a in a kind of model that makes the variety of opinions understandable and shows the different interests and perspectives underlying the different opinions on 'competence'.

Competence in relation to the function of education

Letschert (2004) and others place the function of education against the background of the following threefold combination:

- culture transfer
- personal development
- equipment for life in society, further education and profession.

Evidently these three show mutual overlap. Despite this the thinking perspectives are clearly different.
In *culture transfer* group interests prevail (family, club, company, nation, humanity). These interests are related to the continuation of society, including all its values, life styles, cultural heritage and economies. Besides group interests, individual interests play a role in culture transfer, for example the interests of parents to not only pass on biological life to their offspring, but also everything they experience as being valuable.
In *personal development* the individual prevails, with the urge for self-realisation and with the specific possibilities in various areas: participation in society (socialising), personal experience (emotions and experience of passions), religious experience (sensitivity to transcendence), physical experience in sensory and motor sense, thinking (cognition and language) and the creative ability. The importance of personal development exists in a person partly autonomously and it is partly stimulated by the societies the person is part of.
The *importance of equipment* is a near or far future-directed interest. It concerns the situation in which a person or a group will presently function in the near future or later on. In a static society this equipment will be understood as *'increasing adoption of your role in the existing society'*. In a strongly developing society the picture of the future society is less clear and the content of the equipment is therefore speculative and extrapolating because of the perceived changes. In our time for example the focus is on developments in the area of globalisation, technology, individual adaptivity, the knowledge economy, dynamics in the organisation of professional structures, social structures, spiritual/religious circles and multi-culturality. In this process people are faced with continuously changing values that differ at a personal level.

Given the background of this incomplete picture of the functions of education we think it hardly possible to give one single definition to express the competences of a well 'gebildet' (educated) and 'ausgebildet' (trained) person. Obviously, definitions can be found, for example *'Competence is the ability to relate adequately to a situation'*. This definition, however, is decontextualised to a level that it has become virtually meaningless. The threefold combination mentioned above is also abstract, but opens the possibility to establish a relationship between education and competence.

Structuring the field of competence

Authors who write about competence very often focus on specific aspects and sectors of education, such as pre-school education, basic education, vocational education and in-service training. Some aim at specific professions and sectors (for example professions in the health sector), others focus more on the person in society (for example social ability or employability). Others are guided by personal qualities that are of general importance, such as a critical sense, dealing with information and communication skills. Other authors are guided by classical Bildungs-ideals, such as literacy, numeracy and general development. And then there are authors who describe profession-related competences, such as a language, mathematical or technical competences.

How do you start the structuring process? We propose to start from the functions of education as mentioned above:

- culture transfer
- personal development
- equipment for life in society, further education and profession.

Different educational sectors emphasize culture transfer and personal development in different ways. Therefore it might be a good idea to look at the perspectives on competence in different educational sectors. The third function, equipment, is important for the professional sector where students will work, for the society of which they will be a member, and for the scientific community where some of the students will find their profession.
So we will try to structure these perspectives by briefly investigating the concept of competence in:

- educational sectors
- professional sectors
- society
- scientific disciplines.

Educational sectors

In the various educational sectors people have different pictures of what is considered important in the education of pupils/students.
The pre-school or early school period is traditionally involved with children developing their functions (psychological development, pedagogical perspective), becoming self-reliant in school (pedagogically and educationally) and developing certain aspects of their world image

(pedagogically and conceptually). Sometimes preparation for reading, writing and arithmetic plays a role (subject-specific).
In basic education there is little notion of a specific vocational career in which the children will function later on. Therefore competence is usually elaborated in a traditional way starting from the (enlightened) ideal of founding insights that should give children the key to sensible performance in their personal, social and professional lives. This picture of competence is traditionally expressed in the subject canon (language, mathematics, knowledge of the world, nature and culture, physical development, etc.). In addition to this there is a broader perspective in which social equipment, culture transfer in a broad sense and personal development have their position besides or in combination with the school subjects.
In vocational or in-service training the specific vocational skills traditionally prevail. With the changing labour market the professional profiles are changing accordingly: one has to be prepared for a career in the vocational sector or even the labour market in general. Instead of vocational specifications there is a need for a more general framework of competences, in which professional capacities as well as the future development of a person are covered and described.
For the purpose of thinking in terms of continuing personal learning routes it would be good to have a framework of competences in which the development of a person at every age and at all stages of professional development can be covered and described.

Professional sectors

Students in the Netherlands carry on from vocational education to work in the vocational sector. Because of ongoing specialisation and the trend to give more and more 'general' education, the equipment for concrete functioning in a working situation is not always adequate. New developments such as 'project-directed education' and 'practical education' might change this. With a view to these changes a conceptual framework is needed to express what pupils/students should master to prepare for work and the labour market. The concept of competence might be helpful in formulating that framework.
This framework considerably differs depending on the job a person prepares for. For example as regards the job of bricklayer, mathematical researcher or priest, the professional environment, the required personal development and the specific professional requirements differ considerably. Opposite to this need for specific competence, political views on the economic performance of society will result in competences

as were agreed upon in the Lisbon agreement. One of the aspects of this agreement is the responsibility of every citizen for his/her own employability on the labour market. So the educational system should not give training for a too specific set of competences. This dilemma is important in understanding discussions about competence in the professional sector.

Society

Government, churches, industrial companies (producing for the consumer market), environmental organisations, sports clubs and sport centres, shops, transport companies (train and airlines) and road managers (government and counties), public health, media, cultural institutions and various other areas in society have specific views on what a competent citizen should be capable of. For education politics this diversity is eminent. In the Dutch education system the freedom of education is laid down in the constitution, which means that social areas can structure the education of their youngsters based on their own views.
Many of these views are related to:

- appreciations and human visions that are translated into political, religious or ideal opinions
- practical considerations on what enables a citizen to participate in society or in a specific part of society, or
- scientific representations of society or part of society.

Some of these views have also been translated into national legislation, for example tax regulations, traffic rules, civic law and in the more or less informal system of language, symbols, pictograms, habits, social rules, etc. To an adequate extent education should pay attention to these subject areas to make students competent citizens who are able to participate in society.
The government and every authority in education will have to express in one way or another the desired competence of citizens, to be able to give direction to education. Traditionally this was done in terms of the subject canon and in terms of equipment for specific professions, such as training to be a metal worker or a teacher. Views on what a good citizen was supposed to learn were not expressed in terms of specification of areas of existence or social domains, but in terms of reading, writing, arithmetic and other school subjects. In the last few years various other educational themes were added: sex education, traffic education, culture projects etc. The idea of expressing competences of a good citizen might be a solution.

Scientific disciplines

In modern thinking after the Enlightenment the academic knowledge areas were held in high esteem. Scientific thinking rapidly developed and for a long time it was seen as the ultimate advisor. To some extent the division into school subjects is a reflection of the academic subject canon.
In the meantime the academic spectrum has become considerably broader and by now the question is justified whether this subject canon should be maintained in its current form. In the Netherlands discussions have come up on the introduction of new subjects, such as information technology, technology or socio-emotional education (sociology-psychology). There is also discussion on the question whether pupils/students should be better educated in 'cross-curricular skills', such as research skills, study skills, information skills, communication skills and on the question whether more attention should be paid to meta-cognitive strategies.
Starting from the idea that basic education cannot be any more than a warming up for or a reflection of the immensely expanded whole of science at university level, the obvious idea is to equip students for scientific work, in which the focus is on scientific competences instead of specific capita from science that do not reflect the whole scientific spectrum after all. This approach clashes with the cumulative character of scientific knowledge: if you want to learn to do scientific work, you need to possess a considerable amount of knowledge and skills, that enables you to work scientifically in a methodical and conceptually responsible way. This means that universities would like their incoming students to already have a certain conceptual education. This applies to higher vocational education: higher technical education, teacher training and higher socio-psychological education should be able to assume certain basic knowledge. This approach also results in a different view on 'competence of knowledge workers'.
In scientific thinking there is great interest in knowledge of universal abstract notions. In this respect mathematics probably holds the top-position. In post-modern scientific circles interest has risen in specific knowledge, which is strongly context-related. In these new traditions research disciplines that focus on critical model development, data analysis, participating research, development research etc. are the centre of attention.
In societies that consider knowledge and acquisition of knowledge as the core of the economy (knowledge economy), competences related to scientific conduct and adequate application of science are important aspects of the education of knowledge workers.

Establishment of competence

Two of the functions of competence descriptions are: making both the educational offering and the result of education assessable. In concrete this means that competences should be ready to be expressed in understandable language and to be made operational. You should be able to see whether education contributes to certain competences and whether a pupil/student becomes more competent. In the current discussions this is an important point.
Traditionally competences are expressed in terms of the subject canon and particularly in terms of knowledge and skills. Knowledge and skills can be perceived in what a pupil/student does (knowledge reproduction, executing concrete tasks). The reproduced knowledge and skills can, to a certain extent, be evaluated by means of norm-referenced measurements. In fact the classic notions of knowledge, skill and attitude are latent notions that are not directly perceptible. In contact with pupils/students and in tests or assessments, whether they are norm-referenced or not, the teacher can get an impression of the qualities of these three notions in pupils/students.
For a number of competences considerable problems exist as regards the ability to use adequate expression and (norm-referenced) evaluation of (desired) competence of pupils/students. In practice the consequence is a certain intersubjectivity in the formulation and assessment of competences and education. So teachers, schools and students will have to cope with to some extent intersubjective assessments of competence. In this respect competence thinking is lagging behind thinking in terms of the subject canon. The fact that competences are fairly vague may result in acceptance problems by interested parties as regards thinking in terms of competence.

Reflection

For various reasons the classic subject canon of universal knowledge no longer seems to be adequate for a number of situations, which gives rise to the need for a new lay-out to describe the development of pupils/students and the result of education. Competence is a conceptualisation of being human, competitive to thinking in terms of knowledge and skills. The strong point of this conceptualisation is bridging the gap between the classic contrast between theory and practice (episteme and fronesis).

Nevertheless competence does not seem to be an easy concept to define. Its character seems to be rather analogue, because a sufficiently meaningful common core is hard to define in every meaning used in different sectors and by different authors.
As a consequence we suggest not to ask the question what competence is, or how the scope of the meaning can be organised. We propose to see competence as a perspectivistic notion that can be described and perceived from:

- a view on functions of the particular education
- certain interests coming with those functions
- certain ideas on establishment of competence.

Our draft specification of these three perspectives is:

- a view on functions of the particular education
  - what is the thought on the function of this type of education:
    - culture transfer (for example philosophy, anthropology, (cultural) history)
    - personal development (such as pedagogy, psychology, churches, social groups)
    - equipment for social life (such as public authorities, social interaction, all aspects concerning parenthood and family life and living, press and media, being a consumer, leisure activities), further education (for example education systems, sciences) and vocation (such as economy, trade and industry and research)?
  - who are the parties with a concrete interest in the function of education (state, employers, parents, students) and what is their interest?
- interests as regards specific education in the perspective of:
  - the (concerning) education sector or school (pedagogical, didactical, conceptual and religious visions)
  - the concerning vocational/professional sector (specific general equipment and expertise as considered important by the vocational sector)
  - society (pedagogical and psychological visions and equipment as desired by the interested parties described above under the function of education)
  - science (subject disciplinary and subject-specific education)
- and from specific ideas of competence establishment.

In concrete this structure means that the underlying perspectives and interests of a set of described competences are stated. This is important for the decision-making on the question which set of competences is

declared applicable for a concrete situation. This decision-making process is basically a negotiation and sometimes a political process, in which perspectivistic-related arguments always play a role.

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Knowledge and competencies

Benő Csapó

Summary

In the past decades, cognitive research has resulted in a vast amount of empirical findings on the nature, organization and development of students' knowledge. This new understanding allows scientifically based curriculum development, which is not the case in many educational systems yet. This paper argues for a more sophisticated and differentiated conception of knowledge for educational design and evaluation. It identifies the organizing principles, which create durable and working cognitive systems out of the distinct elements like facts, figures and skills. Three different types of knowledge organization are discussed and compared: expertise, determined by the values of a profession or discipline; literacy, the broadly applicable and socially valuable knowledge; and competence, that is still a vague, but on the long run a promising conception for education.

Introduction

The changes in the way we look at knowledge brought about corresponding changes in education-related research and in some countries even in the practice of teaching in the last pre-millennial decade. To the public these changes were indicated by the international knowledge measurements of the recent years in a sometimes shockingly vivid manner. Therefore, if one wants to survey the changes in conceptions about knowledge, it is inevitable to refer to the results of these measurements and their scientific background.
The unfavourable and sometimes decidedly stunning results of the recent measurements came as a surprise even to a part of the professional community, which resulted in numerous misinterpretations, reflecting superficiality, lack of proper informedness, and an attempt to bagatellise problems. At the same time it must be seen that these international measurements were stemming from the theoretical developments of the past decades, and similar Hungarian works – based on the same theoretical grounds – had described the problems related to our learners' knowledge before, in a more detailed, and sometimes more drastic manner.

In this study I make an attempt to survey this problem as follows: I will begin by giving a brief survey of the theoretical framework in which the changes occurred in our conception of knowledge can be interpreted. I will present some key concepts of contemporary educational research – such as *knowledge, learning, and the environment of teaching and learning* – while also making an attempt to show how the interconnections between these might be seen in a novel way. Following this, I will deal with the main ways in which knowledge is organized in some detail. What I would like to emphasize in this section is that validity of knowledge, depth of understanding, transferability, applicability, usefulness and meaningfulness are determined not only by the extent of elements (propositional and procedural knowledge[1], or factual knowledge and skills, to put it in a traditional terminology), but even more so by the level of organization within the system. The organization of knowledge – if the systematisation of insulated elements ever happens – can work according to numerous different principles. Among other factors, understanding the difference between these organizing principles is what can help us understand the differences between *expertise (expert knowledge), literacy* and *competence*, thus rendering the problems of our students' knowledge manageable.

Theoretical framework

First of all, I would like to present a theoretical framework in which the notion of 'competence' best fits. About 1960 changes began in psychology and related disciplines, which today we often refer to as 'the cognitive revolution'. Looking back from a few decades' distance we can now tell that the aspirations of the era have really resulted in revolutionary changes, and not only in psychology[2]. A new branch of sciences appeared known as *cognitive science,* and from the turn of the 1970s and 1980s on the infiltration of the results into the theory of education gradually began. By today the most important directions of research in education conform to this paradigm.
As for practical changes, the situation is a bit different. We cannot forget for a moment that public education is a huge and complex system that cannot be steered with quick and precise movements, like a racing car. To stick to metaphors, this system is rather similar to a heavy ocean-

[1] Different terms exist even in English to name the elements of knowledge, not mentioning the problem that there is not a direct correspondence between the terms of other European languages.
[2] For an excellent summary of the history of this revolution, see Gardner, 1985.

cruiser that keeps on moving in the original direction even minutes after turning the steering wheel. To put it clearly, it takes quite some time to see the results of the cognitive revolution in the school practice. It was only in the 1990s that these changes began to be felt internationally, and a real turn in the international comparative surveys could be seen only at the end of that decade. Given the actuality of the subject it is inevitable to mention the PISA assessments. However, I would like to interpret the latest results in a wider perspective, even if in the form of only a few short comments.

It is neither possible for me here to give a detailed interpretation of the notion of 'knowledge', nor even to try to give a definition, for that would really go beyond the limitations of this study. However, I find it necessary to fix here that what we call knowledge is built up of a number of particular elements. By today it is generally accepted to differentiate between two general forms of knowledge, declarative and procedural, that is. *Declarative knowledge* (or: propositional knowledge) – named following the cognitive approach – can be approximately described in the traditional terms as 'lexical knowledge', or 'factual knowledge'. It is a system of interrelated elements. *Procedural knowledge* is the psychic representation of an action or process that would traditionally be termed 'skills', sometimes 'ability'. This dual distinction has been present in philosophy and educational thinking for long, while the terminology of cognitive science renders a new approach possible as well. (See for example Chi, 1987; Case, 1996.)

The above mentioned components, however, are only 'building bricks' within the larger building of knowledge. Of course, by 'only' I do not mean that they are not important. Yet, in this context we must show that above a certain level it is not the mere existence (or non-existence) of these elements that determines the value of learners' knowledge, but the ways and quality of their organization. Even the academic debate on the interpretation of the results of different international assessments centres evolves more around the organization than the existence of the elements. This is clearly because applicability and transferability are matters of organization, which once again leads us to the old principle of system theory: a system is always more than the sum of its elements.

Apart from being a system, it is also important how the particular system is built up, what its organizing principles are and what the basic cohesive force is that organizes the basic elements into a system. However, explicating this would be extremely difficult here, so in what follows I will be dealing with the three main –broadly accepted – organizing principles in detail. What is important to have in mind in connection with *learning* in this context is that it is interpreted as *a process of*

changing of knowledge. It may sound simple and a natural statement, yet it signifies a vast departure from older conceptions. According to this definition, knowledge is not simply an ever-increasing pile of information, but within any kind of learning process knowledge gets altered *as a system*. The alteration has many possible forms; what is important here is that this definition of learning directly clarifies the role of previous knowledge in all learning processes. The most important and most natural form of learning is when learning happens through interaction with the environment. This way of looking at learning means that we accept the fact that learning is always a constructive process, knowledge we never get ready-made from outside, but we are always the ones who create our own knowledge.
However, this approach expects a lot in terms of capability (competences) of teachers.

Organization of knowledge

Within the systematisation of knowledge three main organizing principles are to be differentiated. These principles are not new either; they are rather re-conceptualisations of some old ideas. One is when the system of knowledge unfolds around the logic of a *specific field*. Another possibility is when the organization is determined by *culture,* surrounding social context, and personal interactions. Finally, the most natural organizing force stems from *the psychology of human learning,* that is, the way in which our brain represents the things we know. These principles may be interpreted as three dimensions; any kind of organized knowledge can be situated within this three-dimensional space – this means that each dimension is present in all kinds of organized knowledge, to different extents.
Of course, the psychological characteristics of the individual influence the organization of knowledge. At the same time there are forms of learning that aim at the improvement of the psychological structures themselves. In many cases the natural characteristics of perception determine the structure and form of the knowledge to be formed. It matters, how the brain is 'formatted'. What knowledge can be accepted by the individual brain in a natural and effective way? This is the knowledge we define as *competence*.
In modern societies a considerable amount of knowledge is necessary even for simple matters as dealing with everyday issues, or to be able to take the chances offered by technical civilization and culture, to be able to make responsible decisions in questions related to society and natural environment, to be able to take part in organizing family life and to be

able to cooperate, to fit into society, to understand widely accepted symbolic systems and to feel comfortable with culture. This culturally determined knowledge of social value we call *literacy*.
The knowledge-organizing effect of a particular professional field has been known for long, and also its study has considerable traditions. Ever since crafts, professions, fields and scientific disciplines have been around, they have developed according to a logic and laws of their own. To master a particular profession it is necessary for the individual to have certain elements of knowledge organized in the proper way. The knowledge is focused at a ready-made solution for all kinds of problems. This is a scheme that provides solutions right after the identification of the problem to be solved. This type of knowledge is called *expert knowledge* or in short, *expertise*.
The exact differentiation and comparison of these three ways of organization have but a relatively short history. In colloquial (and sometimes professional) use competence and professional knowledge are frequently used as synonyms; at the same time, those working in relevant research have clear-cut definitions for the three kinds. These three systems of organization result in three different types of knowledge, which determine the optimal forms of learning and the possibilities of application as well. In connection with all this we have to emphasize once more that the value of knowledge is determined not merely by quantitative factors; qualitative factors bear similar importance. One of the most important qualitative factors is organization and the internal and external factors that determine it. Let us now turn to the individual organizing principles and relevant types of knowledge.

Expertise

Expert knowledge (expertise, professional knowledge) was one of the first types of knowledge to be studied by cognitive psychologists. A leading figure of this approach was Herbert Simon, well known as an economist and mathematician as well. One of the most important areas of the field describing human thinking as information processing was the study of the development of expertise. Within this paradigm, many important experiments were conducted that proved to shape the way we think about these questions later on. A basic consideration was comparing the information processing of novices and experts on a given field. The differences examined were related to how novices and experts represent

knowledge, how they organize and integrate knowledge, how they combine elements into larger units[3].

For instance, an interesting experiment was conducted with chess players, which is considered to be a classic today. Among other aspects it was observed how a beginner and a grand master represent situations certain rounds. A very important conclusion of these experiments was that the difference between the novice and the expert is not related to the speed or way of information processing, but in the way they organize what they know. The novice tends to think rather in isolated elements, which results in a great number of (subjectively perceived) solutions, while the expert represents situations in systems, structures and schemes. As it is said, there is a relatively small number of realistic possibilities for an expert, while a novice perceives a multitude of possibilities in the same situation.

Research work during the past few decades has revealed much about the nature of expert knowledge; by today we can tell how it is formed, how it develops, and how it works when it comes to application. Professional knowledge is a well-defined set of organized information, skills and capacities prescribed by the particular field. They are always strongly associated with certain kind of specific content, context, situation and environment. These characteristics have further consequences. One of the positive ones is immediate applicability. Experts are very well aware of all the situations they might face during their professional activity. The grand-master has a short glance at the chessboard and he immediately understands the situation, sees the chances, and he is also able to activate the proper set of solutions straightaway. In most cases, this familiarity means an invaluable advantage, although it has a serious drawback at the same time: such knowledge is extremely specific and therefore hardly transferable to anywhere else.

The development of professional knowledge requires long, complex and specific training. In most fields the techniques of acquiring professional knowledge have developed parallel with the development of the field itself; many fields have long traditions of this kind.

There are many different kinds of professional knowledge, and of course not everybody has even the elements of a particular knowledge of this kind. The development of professional knowledge is more or less independent of the age of the individual. However, in many cases, this type of knowledge has to be founded at an early age, and sometimes the optimalisation takes so long that it necessarily involves some sort of age

[3] This early approach to cognitive psychology is presented for example by Simon (1979) in his classical article.

limit. At the same time, those who have acquired the basics properly can develop their knowledge almost lifelong. Incorporating new experiences is possible even at a relatively older age.

The development of professional knowledge is a cumulative process. It is always possible to add some to the already acquired knowledge. The characteristics of this kind of knowledge are very similar to those of *crystallized intelligence* (Cattell, 1963), described earlier by intelligence research[4]. This crystallized intelligence can be developed throughout the life span, just like we can develop specific parts of our professional knowledge the same way. That is why it is often said that professional knowledge is of an extensive nature, which is best characterised with its 'mass' or 'volume'.

Expert knowledge is highly content-dependent, and transferable within very strict limits, if it is transferable at all. Many examples could be enumerated, as the number of acquirable expertise corresponds with the number of professional fields, hobbies, regular activities exercised by mankind. Surgeons, general practitioners, engineers, pilots, chess players, they all have some sort of specific knowledge, that would scarcely be of use in other professions. A number of rare, special expertises could also be enumerated here, like the expertise of the physicist, the research biologist, the chemist, the historian, or the linguist.[5]

The latter professions are mentioned in order to demonstrate that there is a strong correspondence between certain fields and school subjects and expertises. At the same time it is to illustrate the lamentable fact that in our schools this type of professional knowledge is mostly taught. What our children learn at school is mostly knowledge of the professional kind. If we take a closer look at how professional knowledge is formed, how it develops and the teaching practice of our schools, it shows immediately that in schools children are taught grammar, biology, chemistry, and mathematics as if they were to become professionals in these fields[6]. This finding does not come as a surprise, however, teachers themselves point out clearly that in their opinion 'our schools train 'little scientists''.

[4] The results of intelligence research is best summarized by Carroll, 1993.

[5] For more recent views on expertise see Ericsson & Smith, 1991.

[6] There are considerable differences between the American and the European schooling traditions, the European schools are more content-oriented, therefore rather transmitting the expert-type knowledge.

Literacy

Literacy is not a new notion in the study of education. In the past decades numerous definitions have been coined. From the beginning of the 1990s an ever-increasing demand was to be felt for (the definition of) a sort of 'civil knowledge'. This constituted a universal, non-professional type of knowledge that was to appear as an outcome of schooling. This type of knowledge was in the focus of the assessments carried out under the aegis of the International Association for Educational Assessment (Third International Science Study and its repetitions, TIMSS and TIMSS-R etc.) as well[7]. A basic reinterpretation, however, began only within the framework of the theoretical preparatory phase of OECD PISA[8] 2000. Members of the PISA expert groups were selected professionals of particular fields who had previously had experience with the cognitive approach in their work.

Preparatory work for the first PISA cycle (OECD, 2000) began at the end of the 1990s (about 1998). It was about that time that the particular type of knowledge to be studied would be termed 'literacy' in English. Considering the original meaning of the word, it would mean ability to read and write, but PISA experts have broadened the meaning when they defined the concept of reading literacy, scientific literacy and mathematical literacy.[9]

I would like to emphasize once more that the main differences between literacy and expertise lie in their determinedness and organization. It is possible that within the same field of almost the same elements a literacy-type of knowledge is organized in one case and expertise in a different one. As for expertise, the organizing principles of the given field are of crucial importance; in the case of literacy it is the surrounding social context (culture, civilization). In both cases elements are organized into a larger system. However, while expert knowledge – through constant exercise – is optimised for a limited number of similar tasks in similar contexts, literacy is a much more loosely organized phenomenon. In other words, literacy is a less decidedly practical type of knowledge, with a much wider scope. Expert knowledge is maintained, kept applicable and vivid and developed by continuous practice of a

[7] See for example Beaton, Mullis, Martin, Gonzalez, Kelly & Smith, 1996; and Beaton, Martin, Mullis, Gonzalez, Smith, & Kelly, 1996.

[8] The Programme for International Student Assessment (PISA) is a long-term educational evaluation project of the Organization for Economic Cooperation and Development (OECD), started in 2000 and repeated in three-year cycles.

[9] The framework was reshaped significantly for the 2003 measurement cycle. See OECD, 2003a.

profession, while literacy is maintained by continuous interaction with the surrounding social environment.

Literacy is a socially valuable type of knowledge, an amalgamated form of the culturally relevant abilities, skills and contents. Its elements are selected by wide social acceptance, and the knowledge itself proves to be universally useful (even beyond the individual's professional work, that is). Literacy helps individual development, personal self-fulfilment, keeping in touch with others and participation in social processes. Different domains of culture are represented to different extents in the literacy of the individual, but each and every individual literacy is a reflection of the same universal culture. Acquisition of literacy happens through different human media (books, works of art, media, persons) and interaction with the individual's social context, and it cannot be derived simply from nature. Literacy, therefore, cannot be acquired without a human context.

There might be enormous qualitative and quantitative differences between individual literacies. Just like in the case of professional knowledge, acquisition is not age-dependent. There are further, sometimes confusing similarities, which include cumulative nature and a possibility of lifelong extension. The content-dependence of literacy is at a medium level, which is a bit more difficult problem that would require further clarification. Generally this means that literacy *is* transferable (not strictly tied to a given context), within certain limits. Furthermore, literacy is rather of an extensive nature, consisting mostly of declarative knowledge.

Today declarative knowledge is frequently seen as something of secondary importance. Therefore, I would like to emphasize here, that integration into culture and participation in social processes in a democratic society is impossible without a huge amount of this type of knowledge[10]. Everybody needs up-to-date, useful knowledge that is relevant to everyday life. In fact, it is declarative knowledge that provides the basis for shaping and protecting our identities. Literacy links us with our past and with other members of the society as well. Narratives, stories, anecdotes and tales that we learn, consider important and can recall at any time, determine which values we regard as valuable or worthless. They are the basis for our judgement when we decide who are 'the good guys and the bad guys' in the process of constructing new stories through our experiences. Well-organized declarative knowledge

[10]About the knowledge base of democratic thinking see Csapó, 2001.

cannot be degraded to a secondary level.[11] Therefore, it is a basic task for schools to make the basic elements of literacy available for everyone. In connection with this it is important to mention that declarative knowledge is also involved in PISA assessment. Of course, this knowledge is essentially different from what we usually associate with school. Literacy is assessed and not expert knowledge.
The notion of literacy might be supported with numerous examples. Among others we may speak about literacy related to the humanities, music, the fine arts and techniques.
PISA assessments were conducted in a series fore planned over a long period of time. A basic objective was to get away as far as possible from the school context and to approach the realities of life instead (OECD, 2000). Elaboration of the notion of literacy was only the first step in this process. All three areas of literacy appearing in the assessment of 2000 were linked to some of the school subjects, or subject groups. At the same time cross-curricular competencies emerged. The additional questionnaire on self-regulated learning has already touched this cross-curricular aspect (OECD, 2003b), but the first cross-curricular competence to be assessed from the cognitive domain was the complex problem-solving in the assessment of 2003 (OECD, 2003a).

Competence

Finally, I turn to competence. The notion is quite frequently traced back to the basic work of Chomsky, the explication of linguistic competence. Although he primarily dealt with linguistics and psycho-linguistics, Chomsky is usually considered to be one of the forerunners and key figure of the cognitive revolution (see Gardner, 1985). He was the one to introduce a radical break-off with the then-dominant behaviourism. His basic assumption was that in each culture children acquire at least one language with considerable ease and safety. He thought it impossible that this language could be derived simply from experience, as there is a vast inequality between experiential input and the language finally produced by children. Linguistic knowledge is much more than we can acquire through observing the speech in our environment; therefore, the knowledge of language must have innate elements.

[11] For elaborated discussion of the importance of this type of knowledge see, for example Schank & Abelson, 1995; Bruner, 1996.

As early as at the beginning of the 1960s, after elaborating the conception of linguistic competence, Chomsky[12] raised the idea that his understanding of competence could be extended to other fields. Just like in the case of language, knowledge of other fields contains elements that cannot stem from mere experience. The organization of information and abilities into a psychologically appropriate order results in highly effective knowledge. A more widely applicable notion of competence was elaborated in the 1990s, and this notion seems to determine international (non-)academic processes and practices more and more.

In the case of competence, therefore, we face a psychologically determined system in which the ways of learning, the possibilities of development and improvement are largely based on innate schemes. In fact, what we see here is a mode of organizing skills and abilities into a particular kind of system in which a relatively small number of elements might be organized in an unlimited number of combinations. The development of competence happens largely spontaneously, through an interaction with the individual's environment. This sort of natural learning comes with ease and with high efficiency. However, teaching it – that is making an attempt to speed it up artificially– may be extremely difficult. Let us just imagine how easily a child acquires his or her mother tongue through natural interaction, and how easily children learn foreign languages in the native environment of the target language, while it is especially difficult to pass this same knowledge on to them through vocabulary and grammatical rules.

As we see, competencies develop through natural acquisition most of the time. Everybody possesses a number of the most important competencies at some level. That is, if an individual with healthy psychical status goes through a certain minimal amount of interaction with the environment, competencies will develop to different extents. Still, there can be vast differences between developmental levels. In the end, the quality, frequency and amount of interactions determine the applicability and efficiency of a given competence. The development of competence is quite age-dependent, and young age has a primary role. For language development the first decade of human life is predominantly important; this is the period during which language competence develops. Unless one learns a language perfectly before adolescence, one will never speak that language without accent. Interestingly enough, this stands not only for living, spoken languages, but for artificially constructed languages as well. For instance, people with a hearing deficit, who cannot properly

[12] For an excellent summary of Chomsky's general views on cognition, see his Language and mind (Chomsky, 1968).

acquire sign language during their childhood, will use it with an 'accent' in their whole life.[13]

The ability to communicate is in itself a very important competence. Similarly, there exists a competence for the use of information technology. Essentially the point here, too, is the acquisition of complex symbolic systems. And, to present the validity of our general remarks regarding competence, it is enough to compare the performance of a child and an adult in front of a computer. Provided that both of them are beginners, the unsurpassable advantage of the young mind comes to light immediately. By observing the youth just exploring the computer we can understand Chomsky's astonishment over the development of language; it is really amazing how little information is enough for youngsters to decipher how the system works.

A characteristic feature of competence is that it is less content-dependent than expertise and literacy, which means that competencies are more widely transferable. Competencies are largely of an intensive character, their development is not simply a cumulative addition, but rather a sort of 'strengthening'. Furthermore, competence is very much like the concept of fluid intelligence in psychometrics. This is the kind of intelligence that reaches the maximum of its development between 14-18 years of age, and after this age it hardly develops. The most important competencies are mother tongue, foreign languages, spatial perception and representation, and systems consisting of various cognitive operations.[14]

As mentioned before, the first important international assessment focusing on the competence of complex problem-solving took place in 2003. The expert group responsible for devising the theoretical framework began its work in April 2000 (Dossey, Csapó, De Jong, Klieme, & Vosniadou, 2000). The core of this work was defining what can be assessed as 'complex problem-solving' in the present school context. The team accepted the problem-solving conception of George Pólya (1945). According to Pólya, the process of problem-solving consists of five major steps, that, however, the team interpreted through a cognitive psychological approach. As for the areas of problem-solving, three major domains are distinguished: trouble-shooting, decision-making and system analysis and design.

Sadly enough, after a relatively short 'scientific career' the concept of competence fell prey to what many concepts have fallen prey to before:

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[13] See Pinker`s classic on 'how the mind creates language' (Pinker, 1995).

[14] For some other approaches to competence (connectionist views and computational models) see Simon and Halford, 1995.

using it became a sort of fashion. This led to the twofold usage of the notion. On the one hand there is the notion of Chomsky, the scientific, psychological aspect on which my present analysis focuses. On the other hand one can experience an almost unlimitedly free usage of the term, leading to naming any phenomenon competence that might be accepted as 'cognitive' (and sometimes it goes as far as that it applies to anything psychological).
The problem is not the broad use of the term, but it would be of great benefit if at least professionals did not mix up the two different interpretations. Today most educational policy documents and other texts prepared for wider audiences contain a too general definition. Even the OECD-program '*Defining and Selecting Key Competencies*' shows such symptoms. In the first round of this, professionals defined competence from the viewpoint of their own field (Rychen & Salganik, 2001). The definitions were clear-cut and exact. Among others Wienert (2001) presented an excellent overview of the different possible interpretations of the concept of competence, and also discussed the problems of the many different meanings of this term. However, when in the second round educational institutions and organizations were asked to contribute – and finally three categories of key competencies were defined – the result was little more than philosophical commonplaces (Rychen & Salganik, 2003). Something similar happened to a EU committee that was given the task of interpreting 'basic skills' for common European framework. What the committee finally re-interpreted was its own mission; it turned to key competencies, of which they found eight.

The problem we face today is not a simple terminological confusion. In many European countries – especially in the Central- and Eastern-European educational systems –school education still focuses on the transmission of subject-matter knowledge. In a more or less efficient way, schools create expert-type knowledge, which is hardly utilized in everyday life. In the meantime, much less attention is paid to the development of students' competencies, just because among those who design and implement curricula, the concept of competence is much less known than the subject matter knowledge. Using the term competence too often or inadequately, does not solve, but rather hides the problems. Hopefully, this 'competence-fashion' will pass as quickly as it came, allowing professionals to concentrate on real issues and to fully exploit what the notion of competence really offers to education.

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New competencies in compulsory education: EU framework vs. Spanish curricula

Javier M. Valle

Summary

This Spanish contribution to the yearbook begins with an overview of the main EU documents on education and reflects on the nature and impact of European education politics. A general overview of changes in the Spanish education system, especially at the level of compulsory secondary education, is then given. Finally, and that is the core of the essay, an analysis is presented of the two previous issues, in order to reflect on their suitability to 'learning through competencies'.

Introduction

The materials mentioned in this article are primary documents. This means that the analysis will be carried out using the information given both in European Union documents and in Spanish legislation, ignoring the polemic of whether they constitute only 'intentions' or 'facts', or if they have been realized in daily practice.

The analysis of Spanish legislation refers to documents, which affect the whole of the country. From 1978 on, Spain has been, constitutionally, a nation composed of 17 autonomous communities, which hold certain competencies related to education. It would be beyond the scope of this study to analyse the specific aspects of the curriculum in each community. Therefore, the analysis will be limited to the dispositions which must be fulfilled by all of them, namely, *basic acts or laws*[1] regarding education and *royal decrees*[2] which develop the former in

[1] In the Spanish legal system, a *basic act or law* is, after the *constitution*, the most important type of legislation. According to Article 81 in the 1978 *Spanish Constitution, basic acts* will develop fundamental rights. That is why education, which is considered a fundamental right in article 27 of the *Spanish Constitution,* must be regulated by means of a *basic act.* in order to pass, modify or abolish a *basic act*, an absolute majority must be obtained at the Congress.
[2] In the Spanish legal system, a *royal decree* usually develops a *basic act* up to the maximum level of competence of the national government. A *royal decree* therefore applies to the whole of the country.

relation to the basic curriculum[3] in compulsory primary and secondary education[4].

The European framework

The existence of an education policy in the European Union

It is true that the European Union has no competence regarding education matters. Education is an issue in which each member state has the power to decide and to pass laws.
This does not mean that there is no common education policy within the Community. Although many authors refute this fact, it can be claimed that since the Treaty of Rome was signed in 1957, there has been an education policy provided by European Community institutions. It is obviously impossible to conceive of this policy as a system of binding laws and regulations, designed and executed by the European Union. Education policy has to be understood as a series of guidelines, which, while not binding, are intended to support and supplement the actions undertaken by member states, so that policy can be coordinated in the most coherent manner. This coherence will favour the creation of a common education framework in Europe, with the ultimate objective of education policy for the Union. Apart from these guidelines, the education policy of the European Union is articulated in a series of programmes financed by European funds, such as Socrates or Leonardo, which promote the mobility of teachers and students, the exchange of information and experiences in education, the design of common educational activities between institutions of the different member states, and so on. From our point of view all the above elements can be considered as some kind of *policy*.

It is important to understand the concept of *policy* in a broad sense. We can consider here the conceptual construct used by Miller, according to which policy can be defined as 'a process by which a group of people, whose opinions or interests are primarily different, take communal decisions which are generally considered compulsory for the group and are put into practice by common agreement' (Miller, 1989). According

[3] By *basic curriculum* we understand that which applies to the whole of the country, without interfering with the educational competencies of the different communities, which can broaden it in order to assimilate its contents to their specific socio-cultural context.
[4] Compulsory education in Spain includes both levels, with a total of 10 years of schooling.

to this conceptualization, for a *policy* to exist there must be negotiation, as a result of which common decisions will be taken in such a way that they are considered as legitimate by the group and which, therefore, will be transformed into a series of actions which must also be adopted as imperative. These actions are aimed at obtaining specific objectives, regarded as beneficial according to a rank of values shared by the group and which can only be achieved by means of commonly agreed upon actions.

Let us examine how this way of understanding the concept of policy fits into the ideas that appear in the legal dispositions of the European Union concerning education. Thus, the Union represents a supranational organisation which agglutinates a group of states which, always through negotiation, develops through its institutions a number of actions. These actions are guided by objectives that reflect some of the values present in the European Union, such as cooperation, integration, equality and competitiveness.
Given that there is an education policy in the European Union, the next step will be to describe this policy in recent years, with special reference to key competencies.

European Union education policy: steps from its origin to 1995

The education policy that we have referred to in previous paragraphs has been present in European Union decisions since its origins. In this paragraph we describe the steps from these origins to 1995. There are references to it in the *Treaty of the European Economic Community,* signed in Rome in 1957. It specifically mentions the need to coordinate actions within professional education (Arts. 57, 118 and 128). Furthermore, the *Treaty of the European Atomic Energy Community* (also signed In 1957) states the necessity to create a higher university studies institution (Art. 9:2).[5]

The role of the European Union in education actions became, however, much more relevant in 1976, after the *First Action Programme in Education*. The oil crisis in 1973, among other factors, made member states realise the need to develop a coordinated education policy in order to widen the quality of education and the opportunities for European workers to improve their professional options. From that

[5] This article within the Treaty enabled the creation of the *European University Institute* in Florence, 19 April, 1972.

moment on, several lines of action were developed, with the intention of putting into practice the five areas of action proposed in the 1976 programme. Among these proposals we must highlight the following:

- the creation in 1980 of the Information Network on Education in Europe (Eurydice), together with the National Academic Recognition Information Centre (NARIC), working since 1984
- the starting of programmes such as Petra in 1987, designed for training young people for adult and professional life
- the Erasmus programme started in 1987, developed as a project for student mobility within Europe
- the Lingua programme, started in 1989 with the intention of encouraging foreign language learning; and many others of a similar nature.

Nevertheless, the most important event in the development of an education policy was the signing of the *Treaty of the European Union* (*Maastricht Treaty*) in February 1992. Politically, the main advance proposed by this *Treaty* is the concept of European citizenship. In the field of education, the most significant fact is that, for the first time, a whole article related to education is included in the *Treaty* agreements. This article defines the principles and objectives that would, from then on, govern education policy within the European Union.

Three years after the *Maastricht Treaty*, a new document published by the European Commission appeared. This document would be the starting point for the new orientations in education policy in Europe. After this, the need to contemplate learning from the point of view of competencies will be a constant referent in the education guidelines offered by the European Union.

The White Paper on Education and Training (1995)

This paper, with the subtitle: Teaching and Learning: Towards the *Learning Society* should be interpreted as a result of the concern of member states for the problems of unemployment and the loss of competitiveness in the European Union. This report, written by the European Commission, attempts to offer a thorough reflection upon the key issues that need to be analysed in order to understand education phenomena within today's complex society, together with the perspectives for its future development.

The first part of the report concentrates on the current social framework in Europe, which composes information, globalisation and continuous

technical and scientific revolution as its main dynamic elements. The society resulting from this context can be literally defined as a 'knowledge society' (p. 2). It is characterized by placing knowledge and ideas on its central axis. A knowledge society is based upon the production of knowledge and ideas, together with their dissemination as fast and as widely as possible. As a result, the access to knowledge becomes one of the most important keys to integration into the labour market and, consequently, to social integration. Therefore, the role played within the knowledge society by education and training in general, and by the education systems in particular becomes absolutely essential.

'Education and training will be, more than ever, the main vectors of identity, belonging and social promotion. (...).
Education and Training have always been key factors for equality of opportunities (...).
Each one's position within knowledge and competence will be, therefore, decisive' (p. 2).

The second part of the *White Paper* deals with the desirable goals which will help citizens develop, via education, the abilities to move successfully within this knowledge society. In a society, which is founded on information, the main goal is to access that information. This is mentioned in the first key competence: to be able to use information and communication technologies.

However, if being able to control the physical aspects of information is crucial, it is even more important to manage the intellectual aspects of information as well. Information is conceptualised through language, and, as a result, mastering language becomes essential. Thus, an in-depth knowledge of the mother tongue must be considered a key competence.

In the same way, it becomes necessary to know not only the mother tongue, but at least one foreign language as well, as the globalisation of information has created the need to transmit this information through some kind of *lingua franca*. The possibilities of accessing information multiply exponentially when we speak other languages, especially since large population groups can receive information over the Internet and mass media (mainly television) using foreign languages.

Therefore, knowledge of several languages becomes essential in order to access as much information as possible. The Report also emphasizes the fact that the construction of the European Union implies a constant exchange among people who speak different languages. Thus, it is necessary to create a multilingual framework in order to facilitate understanding among the population. All these factors have forced the European Commission to propose the learning of at least three European Union languages[6] as the key objective of basic education in the near future. The ideas proposed by the Commission include learning a foreign language as soon as possible, preferably during nursery school, and compulsorily at primary school, and learning another foreign language at secondary school.

On the other hand, gaining access to information does not seem to be enough nowadays. Sometimes we experience a feeling of being deluged by facts, which leads to an excess of stimulation in communication and which can produce 'learning indigestion'. This constant avalanche of

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[6] The fact that they propose three foreign languages is not accidental; on the contrary, it is a result of probability. The mathematical probability that two individuals, given that they know any three of the eleven official languages (at that time) in the European Union, can understand each other using the same language reaches a 66%, i.e. is over 50%. If they spoke only two, the probability would not reach 50%. However, if they were able to communicate in four of those eleven languages, the probability would increase to almost 90% (89,4 %, to be precise).
The relationship between the number of languages spoken and the probability of communicating with someone who speaks the same number of languages changes when the possible universe of languages increases. This is happening now with the inclusion of ten new states into the European Union. Since each of them has its own official language, the number of them spoken in the Union reaches 21. Therefore, if one speaks three languages, the probability of being understood would be 38,6 %; whereas if all individuals spoke four languages, the probability would reach 60,2 %.
These mathematical probabilities are purely theoretical because the situation changes according to the context. For example, even though in Malta the official language is Maltese, English is also official; therefore, Maltese would not be necessarily added to the calculation of probabilities. Therefore, it would also be unnecessary to include the variety of Turkish spoken by Cypriots, because they also officially speak Greek. The situation becomes even more complex if we think about the Latvians and Lithuanians, for example. They both have their own mother tongue and share the knowledge of a third one, Russian, which does not belong to the list of official languages in the European Union. The situation is also complicated if we take into consideration the different regional languages which are official within some member states, such as Catalan, Galician or Basque in Spain. If all these languages were included, we would not be referring to only 21 but to more than 25 languages instead.

information is not correlated, however, with the amount of analysis required to process, understand, interpret and value it in such a way that will allow us to understand reality clearly. This situation implicitly gives rise to the existence of one of the most important competencies in the knowledge society: the ability to interpret and assimilate information. Indeed, it is necessary to find a new definition of culture, which will enable individuals to grasp the meaning of facts, and to understand and interact with them creatively. This is the only possible way to take informed decisions within the current labyrinth of information, which lacks a unique axiology to categorize the possibilities of action.

We must add to these competencies those related to technical knowledge. If information constitutes one axis of the knowledge society, technology can be considered essential as well. Consequently, the ability to understand and to benefit from technical advances is considered as one of the most important competencies.

Together with the concepts mentioned above, we also need to consider the existence of a new conceptualisation of professional and vocational training. Training for work will undergo significant change. It will mean educating people in order to face the reality of a labour market in constant evolution, which will also require a continuous development of professional skills. A balanced combination between generality and specialization, between a solid basis of general knowledge and instrumental skills which facilitate change, will be the key challenge facing education with regard to the new concept of work. Therefore, the ability to accommodate to a rapidly changing professional world by virtue of a multifunctional education appears to be, according to the report, a basic and necessary competence.

With this report (*The White Paper on Education and Training,* 1995) the Commission took the first steps towards designing a new education policy in the Union, which should inspire the improvements that each member state needed to adapt education to the twenty first century, according to the 'key competencies'.

Accomplishing Europe through education and training[7] (1997)

Another important step, although at a theoretical and conceptual level, was the constitution of an expert committee (called the *Study Group*), which undertook the compilation of a report detailing how education and training should become the cornerstone in the construction of European citizenship, after this concept appeared in the *Treaty of Maastricht* in 1992. The report, of some 153 pages, submitted in December 1996, received a significant amount of public attention.

The Committee in charge of writing the report, formed by experts and professionals in education from all the member states, and working from an independent point of view, listed a series of objectives regarding education in Europe, from which we can obtain a number of competencies associated with the achievement of these objectives.

According to the report, the actions undertaken by education policy within the Union, as well as the measures proposed by each educational system in the member states must converge towards a common goal in European education. This could represent a guideline for all the education systems: ' *(...) make it possible to give everyone the opportunity for personal development and to achieve the high levels required by the new international environment and to acquire the resources needed for social integration.'* (Accomplishing Europe through education and training, 1997, p. 32).
In order to achieve this goal, each education system in Europe should work towards creating truly intercultural schools and towards making sure that all students, once they have completed compulsory education, will have received the basic knowledge and elementary skills that will allow them to approach the task of lifelong learning. Furthermore, the systems should clearly define the new professional profiles that the knowledge society will require in order to promote the acquisition of the necessary concepts.

The proposal presented by the Study Group (the expert committee) needs to be analysed within a context of a sense of social unity and common identity which must be accepted by all European citizens. This new identity is based on the variety and richness of cultures, and must

[7] As a follow-up to the *White Paper on Education and Training*, 'Teaching and Learning: Towards the Learning Society', which was adopted in 1996, the Commission set up a Study Group comprising 25 experts. Its overall mission was to open the debate on future developments in this area.

be considered as a step towards the advance of each individual culture. This initiative is aimed at developing a sense of European citizenship, especially among young people, using educational and training systems as the most effective tool for the attainment of this objective.
The Study Group believes that all member states must adopt the proposal, if we are to achieve a common goal; consequently, both education and training systems must have common aims. These aims lead into five concrete objectives, which must be accomplished by all the education and training systems within the Union: to build a European citizenship; to reinforce European competitiveness and preserve employment; to keep social cohesion; to educate and to train in the information society; and to create more dynamic education and training systems.
Each of the objectives is thoroughly analysed in different chapters of the report '*Accomplishing Europe through education and training*' (1997), as detailed below.

'Building European citizenship through education and training' (pp. 51-62)

European citizenship is a humanistic concept, which defends the construction of a greater Europe, made up of different cultures, economic outlooks and fundamental realities, but with common axiological roots. As a result, Europe must strengthen and transmit all the common values, which have been developed throughout the evolution of its civilisation.
According to the report those common values which can be considered as an essential part of the European inheritance could be defined as follows (p. 57):

- human rights and human dignity
- fundamental rights and liberties
- democratic legitimacy
- peace and rejection of violence as a means of achieving any goal
- respect for others
- solidarity as a principle (within Europe and the world as a whole)
- equality of development
- equality of opportunities
- the principles of rational thought based on evidence and proof
- preservation of the environment
- personal responsibility.

These values must constitute the core of a sense of common belonging, built on the basis of a shared democratic culture. Within this system,

Europeans will be able to recognise themselves as European citizens, encouraged by the relationships that will be established among them. Having the necessary competencies required for this recognition of a European citizenship requires appreciating and understanding a common axiological (common core of values) organization and being able to constructively participate in the European integration process. This necessitates, at the very least, a certain acquaintance with European institutions and with the main historical milestones in the process of building Europe as a civilisation and the European Union as a political reality; what is more, it requires participation and benefiting from all the educational, professional and social advantages inherent in being European citizens. Among these opportunities, we must mention the common education programmes, such as Socrates or Leonardo offered by the European Union.

Education plays an important role in developing any education programmes for training in the concept of European citizenship. In order to perform this task, education must include five essential dimensions:

- recognition of the dignity of human beings
- social citizenship
- equal citizenship
- intercultural citizenship
- ecological citizenship.

We must, therefore, embark upon a new path: a new pedagogy of citizenship. To do this, it would be useful to:

- improve the knowledge of foreign languages
- facilitate the understanding of European cultures
- update the current history and geography curricula in order to articulate them from the perspective of a new concept of historical thought
- encourage the participation of students in the democratic institutions governing their schools
- facilitate the mobility of teachers and students.

The best way to put these guidelines into action would be through the establishment of intercultural schools. These should be conceived and designed in an open way, so that they can include the characteristics of being comprehensive, tolerant and liberal.

'Reinforcing European competitiveness and preserving employment through education and training' (pp. 63-88)

In a global economy, Europe must improve both its business and commercial competitiveness if it does not wish to be economically dependent on the United States. Any advance in commercial competitiveness necessarily implies an improvement in the professional competencies of their workforce. Thus, education systems are the primary instititutions where these competencies must be acquired. Therefore, the assessment of the effectiveness of education systems regarding the improvement of technical and professional competencies becomes an absolute requirement.

Some of these competencies in the professional field should be highlighted. On the one hand, we must pay attention to teamwork and leadership skills, together with the ability to adjust to a continuously changing working environment and to innovation as a constant point of reference in the professional world. Innovation is precisely where the key to professional challenge lies. Thus, the task of education systems involves fostering the development of proposals and stimulating problem-solving abilities, which are essential competencies in order to meet the challenges posed by an ever-changing world situation. This implies two consequences for education and training systems: first, bearing in mind the European context of a knowledge-driven society for the future, education systems must make an effort to train creative individuals, capable of solving problems; and second, in order for these people to acquire these competencies, the systems must be connected to competent and innovative institutions.

Maintaining social cohesion through education and training (pp. 89-111)

European citizenship is an integrative concept, which must affect all citizens, including those who, for whatever reason, have not had the chance to pass through a formal education system. Europe needs to activate all its human potential and this means rescuing many people from social exclusion[8]. As a result, new flexible and open education

[8] The *Final Communication of the Bucharest Conference, 20th June 2001* highlights the significant role that social cohesion plays as an education objective, since personal effort is becoming more and more important in order to achieve lifelong learning, to deal with ICT, and so on. It also acknowledges the effort that schools have to make to adjust to diverse audiences and social environments and to provide motivation and create an atmosphere conducive to social cohesion.

formulas must be found, so that everyone, especially the socially and economically underprivileged, can benefit from learning.
In this field, the European Union proposes guaranteeing the acquisition of basic essential competencies for all young citizens, regardless of whether they have received formal education or not, in order to enable them to continue learning in non-formal education environments or by themselves. Nonetheless, a school dropout problem must be prevented by offering good counselling and control services and by promoting non-formal education alternatives and lifelong learning.

Educating and training in the information society (pp. 113-121)

Reiterating the concept of the 'knowledge society', which was presented in the *White Paper* in 1995, the report considers it essential to review the key competencies, which are necessary to participate actively in this knowledge-driven society. From this point of view, ICT become vital. ICT must not be considered a subject in itself, but as a tool to access knowledge, turn it into information and generate new knowledge.

Creating new education and training systems and supporting their actors (pp.123-139)

Nevertheless, a thorough revision of education systems and teaching methods is essential. They must reach a larger number of people and must be more effective. In pursuing this effectiveness, it is vital to introduce continuous evaluation and improvement elements through what has been called the 'mirror effect'[9].
One of these elements must be the dynamism of education institutions. This vitality must integrate students as well. Hence, they require competencies in order to have an effective presence in the participatory organs of their schools. Assertiveness, communication skills and empathy turn are essential to define the competencies related to this attitude towards participation.

From theoretical reflection to concretion

After the Lisbon European Council in 2000, a new approach focused at quality indicators and specific objectives in education systems. The *Conclusions of the Lisbon European Council* pointed out that the global strategy of the Union for the 2000-2010 decade ought to be to become

[9] According to evaluation theories, the 'mirror effect' is simply the mere effect, quite efficient in itself, which is produced in any institution when it is able to analyze its own work and to recognise itself in the results reflected in that assessment.

'the most competitive and dynamic knowledge-based economy, capable of sustainable economic growth with more and better jobs and greater social cohesion' (paragraph 5). From this teleological perspective, it also proposes a number of strategic actions that member states should take in order to develop 'Education and training for life and labour in a knowledge-based society' (paragraph 25-27).
One of the strategic lines of action proposed was to elaborate a report, which would present 'a general reflection over the future concrete goals of the educations systems, focused on common priorities and concerns' (paragraph 27).

The report had to be presented to the Council, which would be held in spring 2001. This was done, and the *Report of the Commission, January 31, 2001, The concrete future objectives of education systems* was adopted by the Council on February 14, 2001, despite some reservations[10], and definitely approved by the Stockholm Council celebrated on March 23 and 24, 2001. After this acceptance by the Council, to a certain extent, the goals proposed in the report develop into a framework of objectives, which will determine the aims of all the education systems within the European Union.

The beginning of the document is optimistic: 'European citizens are already among the best trained and educated in the world and European education and training systems are among the best in the world' (paragraph 1). However, it also recognises the need to anticipate new demands, considering the present context, characterised by rapid changes, growing globalisation and complex economic and socio-cultural relationships.
Education systems in the European Union must meet four main challenges in the future. Understanding these challenges and what they represent for the education of the new generations will determine the definition of objectives later on.

The first challenge results from the *changes in working life,* with a growing number of jobs in the service sector, a constant need for professional retraining and an increasing presence of ICT. All these

[10] It is quite interesting to analyse both documents from a comparative point of view in order to observe the slight changes that appear in them, which allow the different approaches presented by the Commission and the Council to be appreciated. Nevertheless, such comparison goes beyond the scope of this article. In this section, we will refer to the disposition approved by the Council, and not to the proposal presented by the Commission.

factors have resulted in changes both in the nature of work and in the competencies expected from workers, which make it necessary to put into practice the principle of lifelong learning.
Another important challenge springs from *social and demographic changes* resulting from migration, the aging of the population and a longer life expectancy, which will make it essential to pay attention to adult education and to offer an explicitly intercultural education.
The *risk of social exclusion*, if the principle of equality of opportunities is not pursued, constitutes the third challenge, since a wide gap may open in knowledge-based societies between those with access to ICT and those who cannot benefit from them, and who have difficulties in obtaining the raw material which comprises these societies: information. An education, which encourages an integrated society, is essential in this context.
Finally, the *EU enlargement* poses a new importance education challenge. As the countries that became members in spring 2004 have various education levels, diverse economic situations and different labour markets, which will generate a need to pay attention to the economic and education needs of those with less resources than the average citizen of the member states have at that moment. Considering the situation, the member states of the Union must consider the following three objectives for their education and training systems (European Commission, 2002b, pp. 12-31).

Improving the quality and effectiveness of education and training systems in the European Union (European Commission, 2002b, pp. 13–21)

Attaining this objective obviously requires an upgrading in teacher training, since teachers are the most important element in motivating students and making them succeed. Their role has changed from that of mere knowledge transmitters to that of student advisors along the individual, self-learning path. Teachers must accept the difficult task of updating their own knowledge. In a world of high-speed information production, they will have to be able to manage ICT skilfully and to apply these technologies to their teaching practice.
Also, the array of aptitudes required in a knowledge-based society needs to be developed. First a definition of key competencies appears to be necessary in this new cognitive context. It seems evident that reading, writing and arithmetic competencies, no matter how traditional they may appear, must still be considered an essential asset and, consequently, their levels of acquisition must be enhanced. Together

with these general aptitudes, we must take into consideration a whole group of emerging competencies, such as:

- the use of information and communication technologies, given that they constitute an essential vehicle for knowledge acquisition
- competence in foreign languages, a necessary condition to facilitate active coexistence and participation in a multicultural and multilingual society
- education for a democratic citizenship, focused on encouraging participation in political processes and in dialogue as the key tool to build consensus
- the core competency will be the ability to learn. Education must be, above all, a process of 'learning to learn'.

Ensuring universal access to information and communication technologies turns out to be, consequently, one of the main goals. It is essential to provide schools with adequate equipment, create new learning centres, establish networks, train teachers in the effective use of new technologies in class, and enable them to use all the resources offered by ICT. These technologies have implied a revolution in working procedures in schools and in training institutions, apart from their potential for developing non-presential learning processes (distance and on-line) or semi-presential (half time presential and half time non-presential), which makes learning opportunities much more flexible and facilitates the development of lifelong learning.
The increasing number of people enrolled in scientific and technical education must be interpreted as an indicator of the improvement in quality and efficiency in education systems, because it guarantees society the availability of technical and scientific knowledge, which will stimulate competitiveness.

Facilitating universal access to education and training systems (European Commission, 2002b, pp. 22-25)

The last specific objective, presented in the 2001 report: *The concrete future objectives of education systems* and related to its first general goal is to benefit from resources as much as possible. Education institutions will have to make use of the support systems available (namely, administration and accounting services, evaluation tools, and so on) in order to guarantee efficient management of resources and to ensure quality as well.
The Report keeps firmly in sight the principle of lifelong learning. This means the need to build a society where no one is excluded from education, regardless of age, employment situation or social

background. As a result, the task proposed is to offer enough learning opportunities to meet all possible needs.
Logically, open learning environments should be encouraged. Learning structures should be more flexible by e.g. taking advantage of ITC. Thus, non-formal instruction plays a pivotal role in the education process. *Similarly, learning must be made more attractive in order to motivate a greater number of people to acquire knowledge.*
Having a large number of educated citizens facilitates the process of achieving the third concrete goal of this second general objective: to promote active citizenship, the equality of opportunities and social cohesion, all of them essential elements if the European Union wishes to become a true 'Europe of the citizens'.

Opening up education and training systems to the wider world (European Commission, 2002b, pp. 22-25)

The general phenomenon of globalisation, experienced in our time throughout the planet is felt more intensely in Europe, due to the political integration process that is taking place. This is why education must widen its perspectives in order to endow people with the skills required to make professional mobility a reality. The situation calls for professionals who, in addition to the competencies required in their profession, possess the aptitudes that will let them live, work and communicate with people from different countries, who speak a diversity of languages and come from varied cultural backgrounds.
To provide people with these capabilities is not an easy task. If we are to attain this goal, schools must reinforce the ties between working life and research in particular, and with society in general, opening itself to all social levels. Companies, research institutions, non-governmental organizations, and so on, constitute ideal environments where cooperation with the education establishment may foster the training citizens require in order to meet the demands posed by globalisation.

There is also an urgent need to develop an entrepreneurial spirit, which implies not only providing workers with managerial abilities, but also inculcating in them positive attitudes towards the creation and development of their own business ideas, and collaborating in acquiring the skills required to transform these ideas into business action.
On the other hand, it is imperative to make progress in foreign language learning, as a necessary tool in the world of globalisation. Knowledge of foreign languages implies not only fostering mobility and development of joint professional ventures among countries. The act of learning a foreign language itself helps people understand the cultural background

behind it, and promotes positive intercultural attitudes which favour understanding between nations and ensure a much more harmonious coexistence in the current globalised context.
Student and teacher mobility through European countries is a key instrument for foreign language learning, which, in consequence, is another desirable objective.

The Report concludes with the proposal, contained in the last general objective, of reinforcing cooperation between member states. The intention is to improve working methods both within the European Union and at the level of intergovernmental or bilateral relationships. This can be done by actions, connecting their training institutions, and developing better systems for the recognition and official approval of qualifications, certificates and degrees.
The above network of objectives can be summarized as follows.

Table 1.

Strategic objectives	Associated objectives	
1. Increasing the quality and effectiveness of education and training systems in the European Union	1.1 Improving education and training for teachers and trainers	
	1.2 Developing skills for the knowledge society	Increasing literacy and numeracy
		Updating the definition of basic skills for the knowledge society
		Maintaining the ability to learn
	1.3 Ensuring access to ICT for everyone	Equipping schools and learning centres
		Involving teachers and trainers
		Using networks and resources
	1.4 Increasing the recruitment to scientific and technical studies	
	1.5 Making the best use of resources	Improving quality assurance
		Ensuring efficient use of resources
2. Facilitating universal access to education and training systems	2.1 Open learning environment	
	2.2 Making learning more attractive	
	2.3 Supporting active citizenship, equal opportunities and social cohesion	
3. Opening up education and training systems to the wider world	3.1 Strengthening the links with working life and research, and with society at large	
	3.2 Developing a spirit of enterprise	
	3.3 Improving foreign language learning	
	3.4 Increasing mobility and exchanges	
	3.5 Strengthening European cooperation	

Source: Eurydice (2002), Survey 5: Key Competencies, p. 28.

After the compilation of the report, the European Council *(European Council Conclusions, May 29, 2001),* demanded the establishment of a working programme aimed to develop these objectives in a more precise

way, to establish indicators for all of them and to design methodologies in order to achieve them. According to the *European Council Conclusions, of July 13, 2001 related to the follow-up of the report on future concrete objectives of education and training systems* the working programme should concentrate on three specific issues: Basic Competencies (in relation to objective 1.2 of the *Report* on *Future objectives...*), ICT (objective 2.3) and Maths and Science (objective 2.4). The programme for these three objectives should be as concrete as possible for the period 2002-2004, and it should outline a long-term agenda with 2010 as its deadline, when the rest of the objectives should be accomplished.

The working programme was developed by the Education Committee, approved on 14 February 2002 and subject to a *Common Report from the European Commission and European Council* which was submitted to the European Council of Barcelona, on 15 and 16 May 2002. From that moment on, a *detailed work programme for the follow-up of the Report on future concrete objectives of education and training systems in Europe* was adopted (DO, C, 142, June 14, 2002).

Partly because of this working programme, in October 2002 Eurydice published a report on key competencies, which was the priority issue according to the European Council of July 2001.

The Eurydice report on key competencies (2002)

Eurydice, the information network on education in Europe, with the financial support of the European Commission, within the framework of the Socrates programme, published in 2002 the book titled *Key competencies. A developing concept in general compulsory education.* This is the most important document published up to now in relation to this question. On the one hand, even though the European group of experts on 'key competencies' has followed its own course, no final report has been presented yet. Therefore, until new reports emerge, this is the latest, most updated one, and summarizes the 'state of the art' of this issue to the present. On the other hand, it is also important because of the thoroughness and quality of its content. The book presents a classification of key competencies according to the reports elaborated by European Union member states, and, what is even more relevant, a comparative and conceptual analysis, which summarizes what, the European Union defines as key competencies, and which enables the concretion of these competencies into capabilities and skills.

The authors of the document found it difficult to define the concept of 'competence'. Its origins lie in the world of labour, and precisely in vocational training, referring to the ability to perform a particular task. However, nowadays it has acquired a wider sense. It is also used within general education to refer to 'a certain 'capacity' or 'potential' for acting efficiently in a given context' (p. 13). Therefore, 'competence' as a concept relates both to knowledge acquisition and to the development of skills, but it constitutes much more than a simple combination of both concepts. 'Competence' means employing both skills and knowledge in a meaningful way, and benefiting from them in order to meet any challenge that individuals may encounter in their life (p. 11).

It is also quite complex to determine what these 'key competencies' are. That is, to decide which ones are fundamental, essential to live in today's world with at least a minimum chance of success. At one point in the report (p. 13) key competencies are somehow associated with the basic learning needs defined by the World Declaration of Education for all (World Conference on Education, 1990): 'These needs comprise both essential learning tools (such as literacy, oral expression, numeracy, and problem-solving) and the basic learning content (such as knowledge, skills, values and attitudes) required by human beings to be able to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve the quality of their lives, to make informed decisions, and to continue learning'.

As international trends indicate, these 'key competencies' include a number of different dimensions, some of them interconnected. The following chart attempts to classify the most important ones, interpreting and summarizing all those presented in the report (pp. 14-17):

Table 2. Summary of key competencies

Literacy (most basic competencies)	**Reading literacy**	Understand, use and reflect on written texts to develop one's goals, knowledge or potential
	Mathematical literacy	Capacity to identify, understand and engage in mathematics
	Numeracy	Knowledge and skills required to effectively manage the mathematical demands of diverse situations
	Computer literacy	Constructive and critical application of ICT
Generic competencies (transversal competencies)	**Communication**	To express properly own ideas with respect for others and in an assertive way
	Problem-solving	Dealing with a problem in an effective way
	Reasoning	The drawing of inferences or conclusions through the use of reason. The ability to make connections between ideas
	Leadership	To be able to guide, to orientate and direct others´ work
	Creativity	The ability to bring into existence new ideas or ways of thinking
	Motivation	To have sufficient desire and emotion to be willing to act in order to learn
	Teamwork	Ability to work with others and lead them, if necessary, employing respect
	The ability to learn	lifelong learning attitude: To be able to identify places and resources of learning and to be sufficiently motivated to invest the necessary time and effort in continued learning
Personal competencies	**Curiosity**	
	Motivation	To have enough desire and emotion to be willing to act in order to learn
	Creativity	The ability to bring into existence new ideas or ways of thinking
	Rationalism	Rational thinking using evidence and proof
	Honesty	Fairness and straightforwardness of conduct; integrity; truthfulness and sincerity
	Enthusiasm	Strong identification with the idea of learning and acting

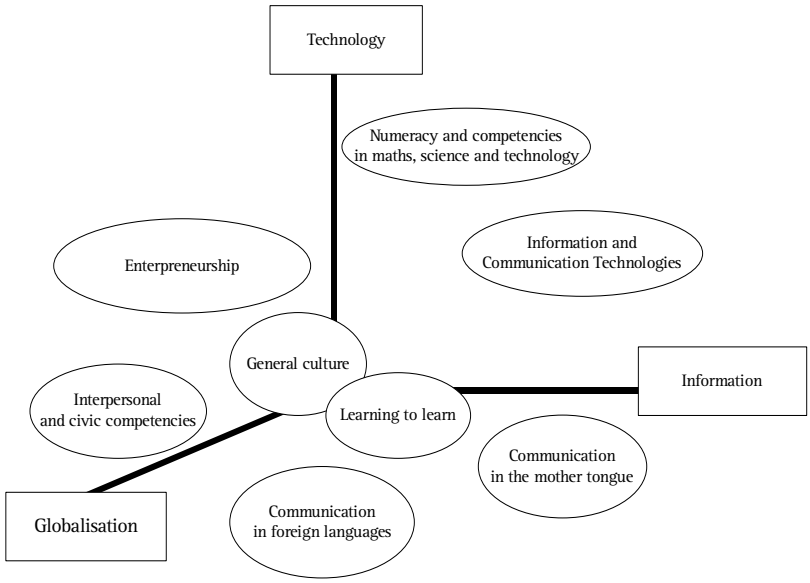
	Self-esteem	A proper satisfaction with one's own worth
	Reliability	To be trustworthy and to have credibility
	Responsibility	The willingness and ability to fulfil one's obligations
	Initiative	Energy, ability and willingness to take the first step in constructing.
	Perseverance	The attitude of being persistent when doing something until it it's finished.
Social or interpersonal competencies	**Effective communication**	The ability to express properly one's ideas and to understand others
	Teamwork	The ability to work with others and lead them, if necessary, employing respect
	Language skills	Foreign languages knowledge
	Awareness of and respect for other cultures and traditions	Intercultural attitude, within the framework of human dignity and human rights; tolerance.
	Citizenship	Democracy, participation, social responsibility, civic engagement.
	Intergenerational responsibility	Respect for other generations and commitment to their needs.

Source: self-elaboration from Eurydice (2002a): Key Competencies, pp 4-17; and Webster's New Encyclopaedic Dictionary.

Personal conclusions regarding the European framework

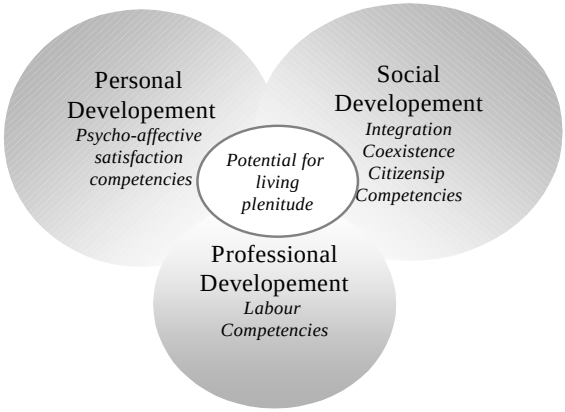
Within the European framework, the definition of 'key competencies' has been considered essential in order to design a paradigm for the development of education in schools, especially in compulsory education. These competencies will provide individuals with the potential required to survive in today's social context. The European Commission work group has outlined eight different domains of key competencies (European Commission, 2002a). The following graph shows how these eight domains can be associated to the three main axes, which define today's social context:

Figure 1: Knowledge society and competencies axes



From our point of view, the eight competency domains represented above (Figure 1), and the complex network of competencies from the previous section (Table 2) could be combined into a common pattern which would integrate the different areas of development of competencies, as Figure 2 below shows.

Figure 2: Competential development areas



It would be impossible to determine which specific competencies are associated to each particular area, since many of them belong to several. As in any other conceptual model, it is difficult to convey the complexity of reality, so this one is intended only as a tentative depiction. However, the most important contribution of this outline is that the concept of competency is essentially made explicit in it, because the pattern represents a synthesis of capacities, skills and knowledge as they interact with the key areas of individual development.
We could conclude that, due to the nature of the concept of competence itself, 'key competencies' are located in the graph in the white area which results from the interaction of social, professional and personal domains, and which has been entitled 'potential for living plenitude', considered as the expression of the potential of opportunities for a person to achieve plenitude in life to the greatest possible extent.

The national Spanish perspective

The analysis of Spanish legislation refers to documents that affect the whole country. From 1978 on, Spain has been, constitutionally, a nation composed of 17 autonomous communities, which hold certain competencies related to education. It would be beyond the scope of this study to analyse the specific aspects of the curriculum in each community. Therefore, the analysis will be limited to the dispositions which must be fulfilled by all of them, namely, *basic acts or laws*[11] regarding education and r*oyal decrees*[12] which develop the former in

[11] In the Spanish legal system, a *Basic Act or Law* is, after the *Constitution*, the most important Type of legislation. According to Article 81 in the 1978 *Spanish Constitution, Basic Acts* will develop fundamental rights. That is why education, which is considered a fundamental right in article 27 of the *Spanish Constitution,* must be regulated by means of a *Basic Act*. In order to pass, modify or abolish a *Basic Act*, an absolute majority must be obtained at the Congress.
[12] In the Spanish legal system, a *Royal Decree* usually develops a *Basic Act* up to the maximum level of competence of the national government. A *Royal Decree* therefore applies to the whole of the country.

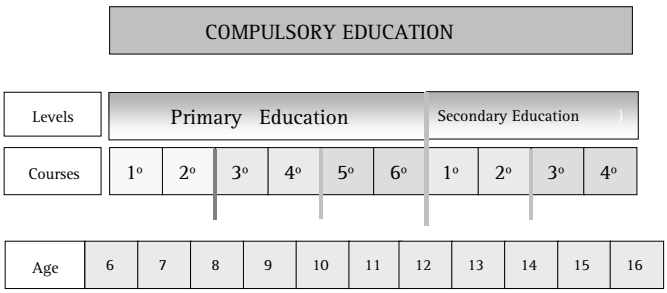
relation to the basic curriculum[13] in compulsory primary and secondary education[14].

Compulsory education in the Spanish education system

The Basic Law on the General Structure and Organisation of the Education System (LOGSE, 1990) was passed in 1990. Since then, compulsory education in Spain has been organised as follows: under normal circumstances, it covers a ten-year instruction period for students, from the age of six until they are sixteen.
The structural organisation of these ten years is quite simple. Compulsory education is organised into primary and compulsory secondary education. Primary education is divided into six school years, divided in three cycles of two-year courses each. Once students have successfully completed primary school, usually at the age of twelve, they must go on to secondary education, which is a four-year period divided in two cycles, each of them two-years long.

The following figure summarizes the structure of the system.

Figure 3: The Spanish compulsory educational system



Emerging competencies

The LOGSE does not specifically mention competencies, given that by the time the law was passed this concept was still used almost only in the world of labour and not in general education. However, the concept

[13] By *Basic Curriculum* we understand that which applies to the whole of the country, without interfering with the educational competencies of the different Communities, which can broaden it in order to assimilate its contents to their specific socio-cultural context.
[14] Compulsory education in Spain includes both levels, with a total of 10 years of schooling.

of capacities was already present. This concept would be, conceptually speaking, the closest term to competencies, since ability or capacity can be interpreted as the potential or aptitude inherent in every person to acquire knowledge and skills, which result in potential resources that the individual employs in order to meet the numerous challenges in life.

Article 13 in the LOGSE states the capacities that children shall develop throughout primary education. By the end of this six-year period, they should be able to:

- use the Spanish language and the official language of their autonomous community with correction
- understand and express simple messages in a foreign language
- apply simple arithmetic and elementary logic to everyday life situations
- acquire the skills needed to act independently in their families and domestic environment, as well as in the social groups with which they interact
- appreciate the essential values that govern human life and coexistence and act in accordance with them
- use different means of representation and artistic expression
- become familiar with the main features of their physical, social and cultural environment, together with their possibilities of action within them
- appreciate personal hygiene and health, as well as the preservation of nature and the environment
- use physical education and sport to encourage personal development.

Article 19 includes the abilities, which must be developed during compulsory secondary education. By the end of it, students should:

- understand and correctly express complex oral and written texts and messages in Spanish and, where applicable, in the language of their own autonomous community
- understand a foreign language and communicate in it correctly
- make use of different sources of information and content in a critical way, and acquire new knowledge on their own
- behave in a spirit of cooperation, moral responsibility, solidarity and tolerance
- become familiar with art and culture and appreciate and respect them
- analyse the main factors that influence social processes and understand the basic laws of nature

- understand the practical dimension of knowledge and acquire basic preparation in the field of technology
- become familiar with the basic beliefs, attitudes and values of our tradition and cultural heritage, assessing them critically and choosing those options which are most favourable to their overall development as individuals
- consider social habits related to health, consumer behaviour and the environment in a critical way
- become familiar with the social, natural and cultural environment in which they act, and use it as a means of development
- use physical education and sports as a means of personal development.

The Spanish Socialist Labour Party (PSOE) passed the LOGSE in 1990 during a legislature in which they had an absolute majority in congress. The main party in the opposition at that time, the Popular Party, was completely against this law. In 1996, the Popular Party came to power after winning the general elections, but they did not have an absolute majority, which made it impossible for them to promote any changes in the LOGSE. Nevertheless, in 2000 they won the elections again, with an absolute majority this time. After that, they started a process of revision of the LOGSE, which culminated with the passing of the Basic Law on the Quality in Education (LOCE), in December 2002.

Regarding compulsory education, the LOCE does not modify the general structure of the education system[15]. The number of school years and the ages of beginning and ending compulsory education are also maintained. Similarly, the division in two main periods (primary and secondary), and their internal distribution in two-year cycles do not vary. The main change applies to the last two-year period in compulsory secondary education, which, according to the law, will offer different learning itineraries, whereas the LOGSE maintained a comprehensive curriculum for all students.
However, the new law, LOCE, introduces changes in the LOGSE, which are relevant to the topic of the present article. Within the paragraph where the 'statement of principles' of the law is presented, some

[15] The LOCE presents relevant changes in comparison to the LOGSE at other levels of the education system, such as nursery and high school levels. These changes go beyond the scope of this article, which focuses only on compulsory education, and will not, therefore, be treated here.

references to the concept 'competencies' are made. On the one hand, they are mentioned regarding European education context:

'A full integration of Spain within the European context implies a greater opening, and requires a higher degree of flexibility and convergence of the education system. It also requires that the students acquire skills that are absolutely essential nowadays, such as the ability to communicate-in other languages as well-, to work together, to identify and solve problems and to benefit from the use of new technologies. These competencies will allow them to make the most of the new European education context, in terms of training, qualification and experience' (LOCE, exposición de motivos; Boletín Oficial del Estado, nº 307, de 24 de diciembre de 2002, pp. 45189)

On the other hand, competencies are also mentioned referring to the fact that public institutions must make sure that the education system, regardless of the path taken by students through it, guarantees 'the acquisition of qualifying competencies for further education by all students' (LOCE, exposición de motivos; Boletín Oficial del Estado, nº 307, de 24 de diciembre de 2002, pp. 45190).

The law also justifies the need for general evaluation examinations for the two levels of compulsory education the aim of which is only to provide education administrations and schools, parents and students with accurate information and data about the degree of attainment of goals of in relation to the basic competencies of each education level.

Key competencies are also mentioned as the main working area for the *National Institute for the Assessment and Quality of the Education System,* which will be in charge of evaluating their attainment. The references to the concept of 'competencies' made in the foreword to the LOCE turn into 'abilities' or 'capacities' when the law determines the objectives for each level of education. Thus, we must understand that, as we have already done with regard to the LOGSE, in the Spanish context, capacities and competencies are interpreted similarly in education legislation.

Article 15 in the LOCE states the objectives for primary education as follows:
Primary education will contribute to the development of the following capacities. Throughout this period students should:

- recognise and be acquainted with the values and rules of coexistence, and learn to act according to them, respecting the plural nature of democratic society
- develop responsible and respectful attitudes towards others, which shall favour a positive environment for personal freedom, learning and coexistence
- develop a habit of effort and responsibility in learning, and positive attitudes towards curiosity and interest for knowledge, which will enable them to discover the satisfaction of successful task completion
- develop individual initiative and teamwork habits
- use the Spanish language and the official language of their autonomous community correctly, both in oral and written communication, and acquire good reading habits
- become acquainted with the resolution of problems which require basic arithmetic operations, basic geometry and probability
- become familiar with the main aspects of science, geography, history and culture
- acquire the ability and the necessary communicative competence to communicate in a foreign language in basic, day-to-day situations
- develop a spirit of enterprise, fostering attitudes of self-reliance, critical sense, creativity and personal initiative
- become acquainted with the use of information and communication technologies as a tool for learning
- begin to appreciate and produce varied aesthetical manifestations, in the areas of art and oral and physical expression
- become familiar with the value of their own bodies, personal hygiene and health, together with the practice of sports as ideal environment for personal and social development
- recognise and know nature and the environment, and develop behaviour patterns which favour its preservation.

Similarly, article 22 presents the objectives for compulsory secondary education. This level of education will help students develop the ability to:

- accept their obligations responsibly and exercise their own rights respecting others, practice tolerance and solidarity among people and practice dialogue in order to consolidate the shared values of a participative and democratic society
- develop and consolidate study and discipline habits, as a necessary condition for the successful completion of learning tasks and as a means for personal development

- develop basic skills in using of information sources, in order to acquire new knowledge in a critical way
- consolidate a sense of teamwork, through the appreciation of other's experiences, perspectives and points of view
- understand and express complex oral and written messages in Spanish and, where applicable, the language or their own autonomous community in a correct way, and study, understand and familiarize with literature
- conceive scientific knowledge as an integrated area of learning, articulated in several mathematical and scientific disciplines. Become familiar with and apply problem-shooting strategies in the various areas of knowledge and experience, in order to solve these problems and to make informed decisions
- develop the required communicative competence to understand and express themselves through one or more foreign languages, to facilitate access to other cultures
- acquire a basic preparation in the field of new technologies, especially through the acquisition of skills related to information and communication technologies, with the aim of using them throughout their learning process, in order to exchange and present information and acquired knowledge
- consolidate a spirit of enterprise, developing attitudes of self-reliance, critical sense and personal initiative, together with the ability to plan, make decisions and accept responsibilities
- become familiar with the basic aspects of culture and history, and respect the artistic and cultural heritage. Recognise and know the diversity of cultures and societies, in order to value them critically and to develop attitudes of respect towards all of them
- appreciate, enjoy and respect artistic manifestations; identify and analyse, in a critical way, the different implicit and explicit messages which appear in artistic manifestations
- get to know the functioning of their own bodies, in order to consolidate care and health habits, and to incorporate the practice of sports in order to facilitate personal and social development
- become familiar with their social and cultural environment and, from a wide perspective, value and enjoy natural environment, contributing to its preservation and improvement.

After this law came into force, several Royal Decrees which articulated its development were passed. Some of them are of utmost importance, for instance, the ones developing the curricula for each of the levels in compulsory education. The Royal Decree 830/2003, 27 June, presents

the common curriculum for primary education; the Royal Decree 831/2003, 27 June, does the same for the curriculum of compulsory secondary education. The capacities mentioned in each of these Royal Decrees as objectives for each level of education are maintained exactly as the ones included in the LOCE. The annexes to the law specify the concrete objectives of each area or subject, the specific contents required to achieve them, and the evaluation criteria which will enable to assess the student's degree of attainment of these goals. There is no explicit reference to competencies, so we must assume, as far as this study is concerned, that the term capacity is assimilated to competence. However, the future of the LOCE is uncertain at the moment. The victory of the Socialist Party (PSOE) in the elections of 14 March 2004 meant a change in political orientation in Spain. According to the new minister of education, the government is planning to adopt the necessary legal measures in order to delay the enforcement of the law long enough to be able to modify it. Therefore, our study is determined by the unforeseeable immediate future of this situation. Until the new proposals become a reality in educational practice, we must compare the capacities stated by the LOCE for the levels of primary and compulsory secondary education, just as they have presented in previous pages of this section, with the 'key competences' proposed by the European Union included in table 2 above. This will be carried out in the following section.

The comparative analysis

The following chart summarizes graphically the extent to which capacities in the levels of compulsory education, as stated in Spanish legislation, correlate with the 'key competencies' referred to in the European Union education guidelines, according to our analysis presented in table 2 above.

Table 3: Summary of competences

European Union		Presence in Spanish law regarding compulsory education curriculum		
Literacy (most basic competencies)	Reading literacy		Cap.EP	Cap.ESO
	Mathematical literacy		Cap.EP	Cap.ESO
	Numeracy		Cap.EP	Cap.ESO
	Computer literacy	Cpt.Prb	Cap.EP	Cap.ESO

European Union		Presence in Spanish law regarding compulsory education curriculum		
Generic competencies (transversal competencies)	Communication	Cpt.Prb	Cap.EP	Cap.ESO
	Problem-solving	Cpt.Prb	Cap.EP	Cap.ESO
	Reasoning		Cap.EP	Cap.ESO
	Leadership			
	Creativity		Cap.EP	Cap.ESO
	Motivation		Cap.EP	Cap.ESO
	Teamwork	Cpt.Prb	Cap.EP	Cap.ESO
	The ability to learn		Cap.EP	Cap.ESO
Personal competencies	Curiosity		Cap.EP	
	Motivation		Cap.EP	
	Creativity		Cap.EP	
	Rationalism			
	Honesty			
	Enthusiasm			
	Self-esteem		Cap.EP	Cap.ESO
	Reliability			
	Responsibility		Cap.EP	
	Initiative		Cap.EP	Cap.ESO
	Perseverance		Cap.EP	Cap.ESO
Social or interpersonal competencies	Effective communication	Cpt.Prb	Cap.EP	
	Teamwork	Cpt.Prb		
	Language skills	Cpt.Prb		
	Awareness of and respect for other cultures and traditions		Cap.EP	Cap.ESO
	Citizenship			Cap.ESO
	Intergenerational responsibility			

Cap.EP: Mentioned as capacity in the objectives for primary education (Art. 15.2 of the LOCE and Art. 3 of the Royal Decree 830/2003).

Cap.ESO: Mentioned as capacity in the objectives for compulsory secondary education (Art. 22.2 of the LOCE y Art. 5 of the Royal Decree 831/2003).

Cpt.Prb: Mentioned as competence in the foreword to the LOCE.

As Table 3 shows, most of the competencies mentioned in European Union documents as *'key competencies'* are present in Spanish education law as capacities that the students must develop throughout compulsory education.
Nevertheless, this statement must be clarified and defined to a certain extent. So we will analyse some aspects according to each group of competencies presented in the table. With respect to the competencies grouped under literacy, and considered as key competencies, the Spanish law does not neglect any of them, since all of them are included in both primary and compulsory secondary education.
Spanish law also accounts for generic competencies, the ones which have pervasive character and whose importance lies in the fact that they are instrumentally useful to acquire knowledge and skills which will become new key competencies. With the exception of the capacity for leadership, all competencies proposed by the European Union are present in Spanish education law.

Personal competencies are probably the ones which receive less attention in Spanish legislation. Rationalism, honesty, enthusiasm and reliability are not present, although we could understand, in a broad sense, that both rationalism (when logical thought and problem-solving abilities are mentioned) and enthusiasm (when it talks about motivation) are present implicitly. However, the competencies defined as honesty and reliability by the European Union are clearly absent in the law.
Social and interpersonal competencies are, on the other hand, accounted for in Spanish legislation. Except for intergenerational responsibility, all of them can be found among the capacities stated in Spanish education documents.

In order to conclude this comparative analysis, it is worthwhile to pay attention to some of the capacities mentioned by Spanish law which are not present in the chart which summarized the ones proposed by the European Union. For example, we could mention, within primary education: the satisfaction derived from successful task completion, the development of critical sense, the appraisal of aesthetic values, hygiene, and health and sports practice; and in secondary education the capacity for dialogue, solidarity, discipline, ability to plan, critical analysis of artistic representations, hygiene, health and sport.

Final reflections

The changes operated in the curriculum for Spanish compulsory education in the last fifteen years, from the LOGSE in 1990 to the LOCE in 2002, and the decrees that have regulated curriculum development, have increasingly included the concept of competencies in the model proposed for compulsory education.
This concept is not overtly mentioned, however. It appears in the foreword to the LOCE (2002), but it is not made explicit when the objectives for each specific level of compulsory education are defined. Even so, we must understand the concept of competence as assimilated to the term capacity, which is how objectives are defined for these levels. Consequently, in the Spanish framework, capacities need to be interpreted in the same way as competencies are considered in the European Union context. Capacity, as it was mentioned above, implies both the potential inherent to the individual, and the acquisition of all the resources needed to meet challenges in life.
If we pay attention to key competencies as they appear in European Union documents and to the capacities referred to in the LOCE that need to be acquired by the end of compulsory education, we find important similarities. The fact that there is a common education context in Europe has obviously contributed to some extent to the existence of this parallelism.

Although there are small differences between the two contexts (European Union framework vs. Spanish curriculum), we must conclude that knowledge of the mother tongue, foreign language learning, usage of ICT, numeracy and democratic coexistence seem to be, both in the European Union and in the Spanish context, key competencies to be acquired throughout compulsory education.
The Spanish curriculum still needs to define how these competencies are going to be assessed, not as conceptualisation of capacities, but understood as competencies. This should be the desirable course of action to be followed by Spanish legislation for the level of compulsory secondary education, and, nowadays, this is precisely the object of attention for the people responsible for education policy in Spain.

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New basic skills in Europe and Flanders

Chris van Woensel

Summary

Briefly mentioning the emergence of the notion 'new basic skills' in Europe and the political process involved, the text mainly provides an introduction to one of the activities of the European expert group B on key competences in stage one, the definition of the concept 'new basic skills'. The expert group B has submitted until now two progress reports. The first report defines eight domains of key competences with the corresponding knowledge, skills and attitudes to each of these domains (Document of the Commission Expert Group on 'Key Competences', March 2002). Furthermore some aspects of Flemish education concerning the key competences as present in basic education and the cross-curricular objectives 'learning to learn' and 'entrepreneurship' are given.

Introduction

In 2050 children will read in their history books about the unification of Europe. The European countries are in the middle of the process. Taking into account the diversity in culture and languages of the European countries, it is a difficult and time-consuming process. How to unify and yet respect the diversity is a matter of balance difficult to find.

From Lisbon to Stockholm

Concerning skills the Presidency conclusions from the Lisbon European Council run as follows about this issue (Lisbon European Council 23 and 24 March 2000, Presidency conclusions p. 3, nr. 9):
'Every citizen must be equipped with the skills needed to live and work in this new information society. .... The combat against illiteracy must be enforced. Special attention must be given to disabled people.'

But then which skills are needed to live in the new society? Knowledge and information are key words. In this context education is mentioned almost automatically. Here is the answer from the European Council (Lisbon European Council 23 and 24 March 2000, Presidency conclusions p. 8, nr. 25):

'Europe's education and training systems need to adapt both to the demands of the knowledge society and to the need for an improved level and quality of employment. They will have to offer learning and training opportunities tailored to target groups at different stages of their lives: young people, unemployed adults and those in employment who are at risk of seeing their skills overtaken by rapid change. This new approach should have three main components: the development of local learning centres, the promotion of new basic skills, in particular in the information technologies, and increased transparency of qualifications.'

...

'A European framework should define the new basic skills to be provided through lifelong learning: IT skills, foreign languages, technological culture, entrepreneurship and social skills.....' [16]

In Stockholm (March 2001) the Education Council presented a report on the future concrete objectives (http://europa.eu.int/scadplus/leg/en/cha/c11049.htm).
Three strategic objectives and 13 associated objectives broken down in forty-two key issues, were agreed upon. The first strategic goal 'Increasing the quality and effectiveness of education and training systems in the European Union'[17] is among others associated with the objective 'Developing skills for the knowledge society (1.2)'. The objective is subdivided in three goals, specifically increasing literacy and numeracy, updating the definition of basic skills for the knowledge society and maintaining the ability to learn.

The expert groups

In 2001 expert groups started with the implementation of the programme for three objectives dealing with ICT, basic skills, and mathematics, science, technology. The other groups should have started in 2002 or 2003. However, for reasons of efficiency, in the course of 2002 it was decided to regroup the 13 objectives in eight blocks. So eight thematic expert groups have been established and in addition to these, a subgroup on languages and a standing group on indicators. The group B (basic skills), composed by representatives of member states, had its first meeting on 12 September 2001 and has had eleven meetings until June 2004. Since January 2003, members from candidate

[16] Lisbon European Council: Presidency Conclusions/ Council documents: http://europa.eu.int/comm/lisbon_strategy/index_en.html
[17] Report from the Education Council to the European Council on the concrete future objectives of education and training systems (Official Journal C 204 of 20.07.2001).

countries and from stakeholders' groups have been invited to participate in the work[18].

Expert group B

Mandate

The Detailed Work Programme on the follow-up of the objectives of education and training systems in Europe, jointly adopted by the Education Council and the Commission on 12 February 2002, identified three key issues under objective 1.2[19]:

Developing skills for the knowledge society

Key issues

- identifying new basic skills, and how these skills together with the traditional basic skills, can be better integrated in the curricula, learned and maintained
- making attainment of basic skills genuinely available to everyone, including those less advantaged, those with special needs, school dropouts and adult learners
- promoting official validation of basic skills, in order to facilitate ongoing education and training and employability.

The mandate of the group also includes objective 3.2 and 3.3:

Developing the spirit of enterprise (objective 3.2)

Key issues

- promoting the sense of initiative and creativity throughout the education and training system in order to develop the spirit of enterprise (entrepreneurship)
- facilitating the acquisition of skills needed to set up and run a business.

[18] The informal meeting of Education Ministers from EU and candidate countries in Bratislava 2002 invited the EEA and candidate countries as well as relevant stakeholders at European level participate in the working groups from the beginning of the year 2003.

[19] Council of the Euopean Union (2002), Detailed Work Programme on the follow-up of the objectives of education and training systems in Europe, Brussels, OJ C 142/8.

Improving foreign language learning (objective 3.3)

Key issues

- encouraging everyone to learn two, or where appropriate, more languages in addition to their mother tongues, and increasing awareness of the importance of foreign language learning at all ages
- encouraging schools and training institutions in using efficient teaching and training methods and motivating continuation of language learning at a later stage of life.

In the first stage the assignment of group B was to design a European framework defining the 'new basic skills'. We will focus only on this part of the work giving a bottom up view on the activities of the group, based on the minutes of the meetings and the concept document of 27 March 2002.[20]

Key issue one: identifying new basic skills

From 'basic skills ' to 'key competences'

The first matter of importance was to reach a common understanding in the used terminology. What are 'skills'? And which of them are 'basic'? So the expert group agreed on a working definition of basic skills: '*Basic skills represent that package of skills and competences, which individuals need to flourish in today's society, and which should have been developed by the end of obligatory school or training, updated when needed through lifelong learning.'* (internal unpublished working document Group B).

Immediately the expert group B experienced the diversity of Europe concerning languages. It seemed impossible to translate 'skill' and 'competence' in other languages and keep the expression transparent. It was for instance very difficult to differentiate 'skills' from 'competences' in languages other than English. Moreover, 'basic skill' had and still has a connotation to a limited set of reading and writing skills and numeracy. In the same line of reasoning, many tend to think of 'basic' (skills) as a set of 'survival skills', whereas the current debate on 'new' basic skills was on much more than on just surviving.

On the contrary 'competence' is generally considered to be a combination of skills, knowledge and attitudes - within the family of terms it was thought to be the broadest one. Moreover a competence

[20] www.europa.eu.int/comm/education/policies/2010/doc/basic-skills_en.pdf

can include 'attitudes', whereas 'skill' is generally considered not to include those. Skills are traditionally defined as an 'ability to do' – i.e. whenever referring to a competence as a skill one must be able to visualise a potential concrete outcome when the skill is applied, which is not necessarily the case when referring to knowledge or attitudes. For those reasons among others the expert group chose to refer to 'key competences' rather than 'basic skills'.

Defining key competences

The proposed definition of key competences reads as follows. Key competences represent a transferable, multifunctional package of knowledge, skills and attitudes which all individuals need for personal fulfilment/development, inclusion and employment which should have been developed by the end of compulsory school or training, and act as a foundation for lifelong learning.[21]

The acquisition of key competencies by all is required for the attainment of personal fulfilment and development throughout life, inclusion and employability.
A competence is a hybrid attribute as it involves a combination of knowledge, skills and attitudes. It may be acquired in all sorts of contexts, formally, informally and non-formally, intentionally or non-intentionally.

A key competence also meets the following requirements: it is transferable and therefore applicable in many situations and contexts; it is multifunctional as it can be used to achieve several objectives, to solve different kinds of problems and to accomplish different kinds of tasks. It must provide a suitable answer to the requirements of a specific situation or task and it is, for everybody, a prerequisite for adequate personal performance in life, work and subsequent learning. It has, in other words, a predictive value for the actual performance of individuals. Whilst one cannot say that key competences will in all circumstances allow the individual to succeed in his/her endeavours, we can say the *absence* of key competencies will eventually lead to personal failure: the person will not achieve the combination of the three objectives (personal fulfilment, inclusion and employment) [22]

[21] European Commission, working group 'Basic skills, entrepreneurship and foreign languages', Progress Report, November 2003, p. 13.
[22] idem, p. 4.

Domains of key competencies

Identifying and defining a limited set of eight principal domains of key competencies the discussions in the expert group, often difficult and complex, led to the following list of key competencies and definitions[23]:

Table 1. Overview of key competences defined by the Working Group on Basic Skills, Foreign Language Teaching and Entrepreneurship

Competence	Definition
Communication in the mother tongue	Communication is the ability to express and interpret thoughts, feelings and facts in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate way in the full range of societal contexts – work, home and leisure.
Communication in a foreign language	Communication skills in foreign languages are considered to have the same four skill dimensions (listening, speaking, reading and writing) as communication skills in the mother tongue. However, the level of mastery is not necessarily the same for all four dimensions, and there can be differences between languages.
Mathematical literacy and basic competences in science and technology	Mathematical literacy is the ability to use addition, subtraction, multiplication, division and ratios in mental and written computation to solve a range of problems in everyday situations. The emphasis is on process rather than output, on activity rather than knowledge. Science refers to the body of knowledge and methodology employed to explain the natural world. Technology is viewed as the application of that knowledge in order to modify the natural environment in response to perceive human wants or needs.
ICT skills	ICT skills comprise the use of multi-media technology to retrieve, store, create, present, sort and exchange information.

[23] idem, p. 13.

Competence	Definition
Learning-to-learn	'Learning-to-learn' is defined as a foundation skill in making a European area of lifelong learning a reality. The working group agreed upon the following definition: 'the disposition and ability to organise and regulate one's own learning, to manage one's time effectively; to solve problems; to acquire, process, evaluate and assimilate new knowledge; and to apply new knowledge and skills in a variety of contexts – at home and at work, in education and training.'
Interpersonal and civic competences	Interpersonal competences comprise all forms of behaviour that must be mastered in order that an individual is able to participate in an efficient and constructive way in social life, and to resolve conflict where necessary. Interpersonal skills are necessary for effective interaction on a one-to-one basis or in groups, and are deployed in both the public and private domains.
Entrepreneurship	Entrepreneurship has a passive and an active component: it comprises both the propensity to induce changes oneself and the ability to welcome, support and adapt to innovation brought about by external factors. Entrepreneurship involves taking responsibility for one's actions, positive or negative, developing a strategic vision, setting objectives and meeting them, and being motivated to succeed.
Cultural awareness	The term 'cultural awareness' comprises an appreciation of popular culture and general social mores, as well as the ability to appreciate literature, art, music and other forms of creative expression.

The definition of each competence remains rather general, making it easy to reach a consensus and leaving sufficient space for the autonomy of the countries. But later on a matrix indicating the knowledge, skills and attitudes that make up the competence was presented in the expert group. For example the domain 'learning to learn was specified as follows (Progress Report, 2003, annex 2, p. 54):

Learning to learn

1. Definition:
The competences necessary to organise and regulate one's learning, both alone and in groups; to acquire, process, evaluate and assimilate new knowledge; and to apply these competencies in a variety of contexts, including problem-solving and learning, at home, in education/training, in work and in society.

2. Knowledge
2.1. Self-knowledge: knowing one's preferred learning methods, the strengths and weaknesses of one's skills and qualifications;
2.2. Knowledge of available education and training opportunities.

3. Skills
3.1. Time management: creating opportunities to dedicate time to learning;
3.2. Information management.
3.3. Autonomy, discipline, perseverance in the learning process;
3.4. To use appropriate means (intonation, gesture, mimicry etc) to support oral communication.
3.5. To understand and produce various multimedia messages (written or spoken language, sound, music etc).
3.6. To concentrate for extended as well as short periods of time.
3.7. To reflect critically on the object and purpose of learning.

4. Attitudes
4.1. Adaptability and flexibility;
4.2. Self-motivation and confidence in one's capability to succeed;
4.3. A self-concept that upholds one's willingness to change and further develop competences;
4.4. Sense of initiative (to learn);
4.5. Positive appreciation of learning as a life-enriching activity.[24]

Reflections

It was agreed that there should not be a hierarchy within the competences. Yet some of them are more fundamental and a different type of competence. Languages and mathematics for example are more subject-related while learning to learn is a component of all human activities.

Not all competencies listed above were to be handled by the expert group B because there is a subgroup languages and other expert groups were dealing also with ICT, mathematical literacy and basic competences in science and technology.

[24] European Commission, Working Group 'Basic skills, entrepreneurship and foreign languages', Progress Report, November 2003, Annex 2, p. 54.

It is clear that the list of knowledge, skills and attitudes mentioned is not new, but based on existing material in the different countries, even though there could be some reserves about 3.4 and 3.5 that appear to be communication skills.
All other issues mentioned in the matrix concerning the domain learning to learn are present in the Flemish cross-curricular final objectives learning to learn, which were introduced in the first stage of Flemish secondary education in September 1997. The second and third stage followed in 2002.

Communication in the mother tongue and in a foreign language, mathematical literacy and basic competences in science and technology are more subject-related competencies than learning-to-learn, interpersonal and civic competences, cultural awareness and entrepreneurship, the latter in the broad sense of the word (see the definition).

Flanders

Basic education

In Flemish education several key competences are included in so called 'basic education', which is seen by the authorities as *'the coherent body of knowledge, skills and attitudes being an essential condition for functioning in society in a critical and creative way and for developing a personal life'* (Education Department, 2001, p. 16). Dutch, foreign languages, mathematics and technology are included in basic education. To define the content of basic education final objectives that are common and obligatory for all schools in Flanders, are formulated.

Final objectives and developmental objectives are minimum objectives with regard to knowledge, skills and attitudes which the government considers necessary for and attainable by a particular population of pupils, and which all schools must provide.

Some final objectives and developmental objectives are related to a particular subject area in primary education and to a particular subject in secondary education; others are respectively cross-subject area or cross-curricular objectives and they are arranged in relation to a number of themes socially judged of prior importance. The distinction between final objectives and developmental objectives is related to the target groups to which the minimum objectives apply (Education Department, 2001, p. 14).

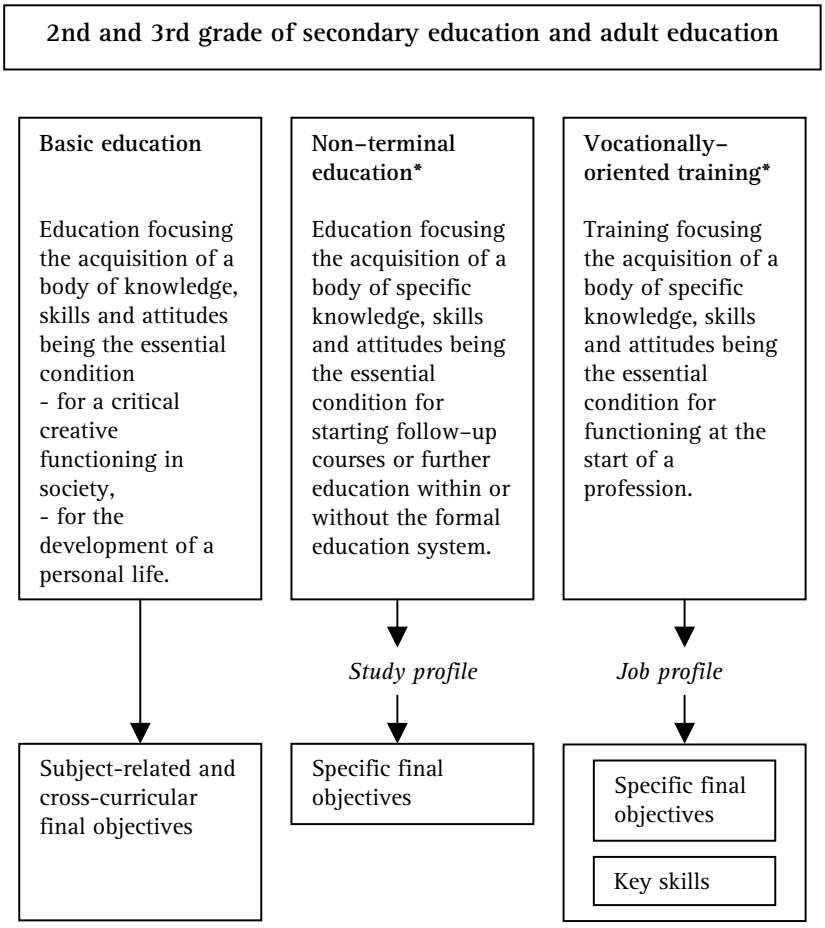
Table 2: Final objectives and/or developmental objectives for each level of education

Target group	Minimum goals	
	Final objectives	Developmental objectives
Nursery education		Subject area related
Primary education	Subject area and cross-subject area related	
1st grade of secondary education A stream	Subject-related and cross-curricular related	
1st grade of secondary education B stream		Subject-related and cross-curricular related
2nd and 3rd grade of secondary education	Subject-related and cross-curricular related	
Special primary education		Subject area related and cross-subject area related
Special secondary education		Subject-related and cross–curricular related

Cross-curricular final objectives have been formulated for the following areas:

- learning to learn
- social skills
- education for citizenship
- health education
- environmental education
- expressive-creative education (only for second and third stage)
- technical-technological education (only for general secondary education second and third stage).

The following figure depicts the view on basic education in 2nd and 3rd grade of secondary education, non-terminal education and vocationally-oriented training as a normative framework for final objectives, specific final objectives and key skills (Education Department, 2001, p. 8).



Learning to learn in Flemish education

When learning to learn in Flanders is compared with the key competences as defined in the expert group B, one notices that all components of the definition and the matrix (see Table 1) are present.

Group B: Learning to learn	Cross-curricular theme learning to learn[25] (Flanders)
Organise and regulate one's learning.	**Views about learning** The pupils 1 can communicate about the connection between their views about learning, their learning motives and learning style; 2 know various learning styles and are willing to adapt their learning style, if necessary, in view of the objectives to be attained. **Regulating the learning process** *Cognitive regulation skills* The pupils can 3 draw up a realistic long-term work and time schedule; 4 steer their learning process, judge it on purposive ness and adapt it if necessary; 5 draw future-oriented conclusions from learning experiences. *Affective regulation skills* The pupils can 6 objectively attribute the cause of failure and success; 7 take into account the affective aspects in their learning process.
Acquire, process, evaluate and assimilate new knowledge.	**Acquiring and processing information** *Acquiring information* The pupils can 8 critically select and consult various sources and channels of information in view of the objectives to be attained. *Processing information* The pupils can 9 critically analyse and synthesize information independently; 10 practise, memorize and repeat in a meaningful way; 11 functionally apply processed information in various situations.

[25] The third stage of secondary education.

Problem-solving	**Solving problems** The pupils can 12 assess and implement possible problem-solving methods in a realistic way based on hypotheses and expectations; 13 evaluate the problem-solving method chosen and the solution. **Study** The pupils 14 can prepare and perform a study or practical lesson and justify the results.
Not explicitly formulated in the European definition of Learning to learn.	**Capacity to choose** *Self-concept clarification* The pupils can 15 communicate about their own interests, capacities and values; 16 develop a positive self-image based on reliable data and communicate about it. *Widening horizons* The pupils 17 can acquire a useful outlook on study and professional opportunities, service organisations with regard to the labour market and/or the future educational career, taking account of their own interests, capacities and values; 18 are willing to adopt an unprejudiced, unconventional and respectful attitude towards educational careers and professions. *Optional strategies* The pupils 19 can complete the different stages of an optional process and consider the consequences. *Environmental influences* The pupils 20 can identify environmental influences on the optional behaviour and take up a position towards them.[26]

[26] www.ond.vlaanderen.be:dvo/corecurriculum/secondary/3grade/cross/learn.htm

Entrepreneurship in Flemish education

The key elements of 'entrepreneurship', as formulated in the definition of group B were already present in the different domains of final objectives such as social skills and learning to learn. But the need was felt to make the goals concerning 'entrepreneurship' more explicit and thus more visible.

Context

In June 2003 a national conference 'Employment' took place in Belgium. This conference was a reason for the Flemish government to organize a conference on 'entrepreneurship' in the autumn of 2003. One of the statements during the conference was that economic development and entrepreneurship are closely linked to education and training. According to this conference and thus according to the Flemish government several concrete measures were needed to stimulate the development of the Flemish economy and welfare.

One of the measures concerned investment in human and social capital through education and training. A Task Force within the Flemish administration was established to put this principle into practice by planning actions on several domains such as education, the improvement of the image of enterprising, financial support of young starters/entrepreneurs, innovation, etc. (internal working document of DVO, unpublished).

Concerning the domain of education it was decided to establish a closer connection between education and business. Furthermore the skill 'entrepreneurship' should be systematically integrated in the cross-curricular objectives in primary and secondary education. These final objectives on entrepreneurship would be closely linked to the already existing learning to learn and social skills objectives (internal working document of DVO, unpublished).

Cross-curricular objectives 'entrepreneurship'

The Department for Educational Development was assigned to form a working commission developing final objectives on 'entrepreneurship' for primary and secondary education, in close cooperation with organizations in the economic field such as UNIZO (organization of autonomous entrepreneurs)[27], SERV (Social – Economic Council of Flanders) and other social partners such as the trade unions.

[27] For small business with a maximum of 50 employees.

The commission has finished its activities and a proposal for final objectives on 'entrepreneurship' will be sent for advice to the Education Council of Flanders. The objectives will then be legislated by Flemish Parliament (internal working document of DVO, unpublished).
The following skills were identified as important and the basis for the final objectives:

- performance motivation: the will to demonstrate one's own competencies and the willingness to make efforts to do so
- sense of independence: the desire to do and say the things one considers to be important and to decide autonomously
- creativity: the potential to create new ideas and methods and the flexibility to switch over from one possibility to another
- sense of initiative: to be prepared to take the first step, to do something new and to use new methods
- sense of calculated risk: to undertake an action knowing that success is not guaranteed
- to consider and to recognize possibilities
- to be goal-oriented: clearly define goals
- self-knowledge: a realistic insight in one's own possibilities
- self-regulation: to regulate one's own activities and attribute success and failure to one's own efforts
- perseverance: to perform a task to the end.

Domain-specific knowledge about enterprises and jobs is to be combined with these skills. The skills and knowledge mentioned are common in all stages of education, though one can identify different accents for each stage.

Accents in primary education (7–12 years of age)
The combination of self-regulation, creativity and innovative thinking and acting receives most attention in primary education. Children take up activities together with other children within the school context and are to get familiar with jobs and enterprises.

Accents in lower secondary (12–14 years of age)
In addition to self-regulation, creativity and innovative thinking and acting, a lot of attention is given to undertake, give shape to and evaluate a project, initiative or action. Taking responsibility is considered to be of great importance in this phase.

Accents in upper secondary (14–18 years of age)
Pupils will work actively on projects, initiatives or activities initiated by themselves or others. Through contact with entrepreneurs they experience the reality of the business world and the competences needed to succeed.

Conclusions

Key competences are expected to be reached at the end of compulsory education. However the end of compulsory education differs from country to country. In Belgium (Flanders) pupils are obliged to attend school until they are eighteen. Since the list of 'new basic skills' is very ambitious, some countries are likely to be confronted with even more pupils who fail and drop out. In order to counter this already existing situation a subgroup within Group B was formed in 2004 dealing with specific issues concerning the 'less advantaged'.

Furthermore doubts about the list of key competences remain. For example the goal that all European citizens should learn two foreign languages is very ambitious and may not even be realizable. The Directorate - General for Education and Culture of the European Commission commissioned a survey in all the member states from 6 to 23 December 2000 (Directorate–General for Education and Culture, 2001). Some of the main results were that 71% of Europeans think that all Europeans should be able to speak in one other European language. The fact that 47% of the Europeans only know their mother tongue[28] indicates that acquiring one foreign language is already difficult to obtain. Two foreign languages are not needed to function in society for a group of people. For some it is very difficult or even impossible to learn two foreign languages.

The main goal of the European Council above all is to make sure the Old Continent not only survives the globalisation, but moreover will be the best in the world:*' a new strategic goal for the next decade: to become the most competitive and dynamic knowledge-based economy, capable of sustainable economic growth with more and better jobs and greater social cohesion.'* (Lisbon European Council 23 and 24 March 2000, Presidency conclusions p. 2, nr. 5). Reading this sentence quoted

[28] Directorate–General for Education and Culture, 'Europeans and languages: a survey', Le Magazine: education and culture in Europe, issue 14, 2001, p. 13.

in almost all texts about Europe, one should not underestimate the task set out in Lisbon 2000.
It is not approved by all stakeholders that economy is taking a very important place in this goal. However one should not forget that the welfare of European citizens depends on a powerful economy. Certainly education has a role to play in the matter, but there are also some limits to what ministers, schools and teachers can do. Financial limits, education being just one of the aspects of society, and personal limits, not all man and women being able or having the opportunity to acquire the necessary skills to live a good and happy professional and personal life. Will modern society adapt to them or will it be the other way around? Still, how adaptive to the demands of modern life will the less advantaged be?

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For better or for worse: new curricular formats for German schools

Eike Thürmann

Summary

Traditionally, German schools have been part of a heavily centralized input-driven system. Thus, content, aims and objectives have been and still are specified in detail by state curricula (= *Lehrpläne*). Also classroom methodology and assessment are subject to statutory curricular regulations. All of the 16 German Länder have so far followed the same pattern assuming that the quality of teaching and learning to be a direct outcome of the consequential implementation of state curricula.
Now things are changing at an accelerated pace. For three core subjects standards have been developed at the national level with core-curricular off-springs at the level of the Länder. At the same time, many of the German Länder are in the process of installing central examination, assessment and benchmark systems focussing on the outcome of the teaching and learning process. Schools – and that is the new political credo – have new responsibilities and much more leeway to determine their priorities. However, they are now under the obligation to improve classroom quality on the basis of comparing their results in exams and state-wide assessment with adjusted benchmarks. School inspection is an essential part of the new system of standard-driven classroom development. Inspectors will evaluate and discuss the attempts schools have made to improve learning and teaching within their own and individual pedagogical programme.

Preliminary remarks

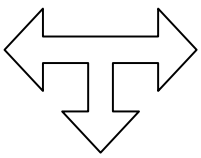
Whenever a yearbook carries a title proudly announcing 'The integrated person. How curriculum development relates to new competencies', contributors have a hard time presenting their field of study in the light of innovation and change although basic structures and concepts might not have changed at all. Reporting on curricular development in Germany I am in the comfortable position to comment on an indeed radical change in perspectives. This concerns curricular formats which might not be new to the world but are definitely new to German

educators: the German school system is about to position new core curricula at the centre of an integrated system of standard-driven classroom development with school-based as well as regional and national assessment as mandatory elements. The scope and rate of on-going changes in the field of curriculum development in Germany are exceptional. They also affect the general federal set-up of the educational system and the autonomy of the German Länder – each running its own school system. Whether this shift in paradigm towards standards and their assessment will turn out to be a blessing or a burden for school development remains to be seen.

Before going into the details of curriculum reform it might be helpful to clarify the motives of German politicians and administrators to set up and follow such a very complex roadmap. There is no denying the fact that the German results in TIMSS, PISA and other large-scale assessment studies have shook up the public. The media interpreted these results as nothing less than a national catastrophe. So the self-complacency in educational matters which had dominated the German scene with its selective tripartite structure of secondary schools for many decades has completely disappeared. Now, there is a common resolve across the whole political spectrum to improve the effectiveness of schools in order to do better on the next rounds of international large-scale comparative assessment.

The credibility dilemma

- accountability
- quality mangement
- outcomes
- benchmarks
- standards
- large-scale assessment
- school ranking
- national standards
- state core curricula



headmasters
heads of departments
teachers
parents
students

- focus on the learner
- focus on the school
- school development
- individual school profiles
- schools opening up to the community
- constructivist learning theories
- connectedness to reality

At the same time, state authorities nationwide hold the firm belief that the quality of mandatory education can no longer be guaranteed by schools with little responsibility for their own development operating within a narrow framework of state directives. Besides, such a system being centrally driven by detailed curricula, by rules and regulations concerning all conceivable school routines, by supplying in-service teacher training no matter whether there is a demand for it or not, by a large number of well-staffed local and regional school boards is extremely expensive. And it seems that the cost-effectiveness of such a system is comparatively poor. Thus, almost all of the 16 in educational matters autonomous German Länder make more or less large strides towards decentralisation, more school autonomy, market models for teacher training. Prima vista the overall picture looks controversial. On the one hand, state authorities take a firm stance on issues such as accountability, quality management, standards and assessment. On the other hand, there is a stronger focus than ever on the individual school to take care of its own affairs being endowed with more responsibility in educational as well as organisational matters and with a modest budget for teacher training.

Some of the German Länder might be more consequential in following this new road map than others. But the general tendency towards more flexibility at the level of the individual school and towards output control at the level of state authorities is accepted by all of the major political parties.
At the same time, two other lessons taught by TIMSS, PISA and other large-scale comparative assessment studies do not go down very well with the influential political elite in Germany:

- there is no sign that repetition of a whole school year for underperforming pupils will be abolished - although the effectiveness of this rather expensive 'pedagogical' intervention is questionable
- there is no sign that politicians will initiate a critical re-appraisal of the highly selective German approach to secondary education. Instead of converting a very expensive hierarchical system of three - in many regions even four - co-existing school forms for the 10-15/16 year olds into a unified and comprehensive system of mandatory education, German Hauptschule, Realschule, Gymnasium and Gesamtschule will obviously continue to exist side by side – or one above the other.

Standard-orientation in classroom development[1]

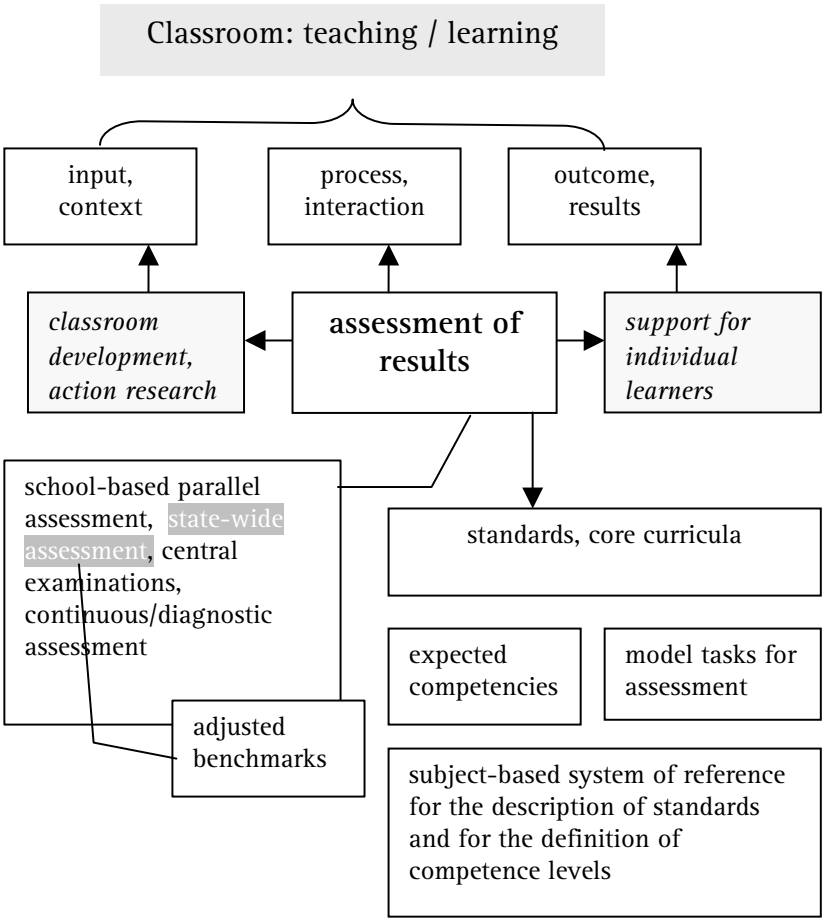
Northrhine-Westfalia, the largest of the German Länder, might serve as a good example for the present quest for quality in teaching and the general concern for classroom development.[2] A host of individual measures to assess and develop the quality of teaching and learning have only recently been initiated or at least publicly announced:[3]

- new curricular standards (Kernlehrpläne); for the core subjects: German (= L1), first foreign languages (English, French, Latin), mathematics scheduled to reach the schools in September 2004
- school-based parallel assessment (Parallelarbeiten); for a selection of subjects in grades 3, 7, 10, 11/12 already in effect
- state-wide mandatory assessment for core subjects in grade 4 and at the beginning of grade 9, first round scheduled for November 2004
- central examinations at the end of lower secondary education, first round to be scheduled for school year 2006/207
- central examinations at the end of upper secondary education (Zentralabitur), first round to be scheduled for school year 2006/207
- independent school inspection
- internal evaluation of school development (Schulprogramm-Entwicklung), in effect.

Schools still tend to visualize these measures as an archipelago of reform islands and do not see them as a functional network for standard-driven and evaluation-based improvement of the individual school as well as the school system as a whole. There is an urgent need for communication between schools and administration to convey the basic philosophy of recent reforms: the attempt to keep a delicate balance of school autonomy on one side and state responsibility for standards on the other side.

[1] Cf. http://www.learnline.de/angebote/standardsicherung/
[2] Cf. Altrichter (2002).
[3] The basic philosophy of these measures were communicated by the Department of Education to the public and to the schools as early as 1998, Ministerium für Schule und Weiterbildung, Wissenschaft und Forschung (1998).

Looking closely at the classroom, individual measures for quality improvement combine like this:



Instead of evaluating the input, process and outcome domains of the classroom separately, this system integrates all three domains in alignment with new standards / core curricula.

Standards, core curricula

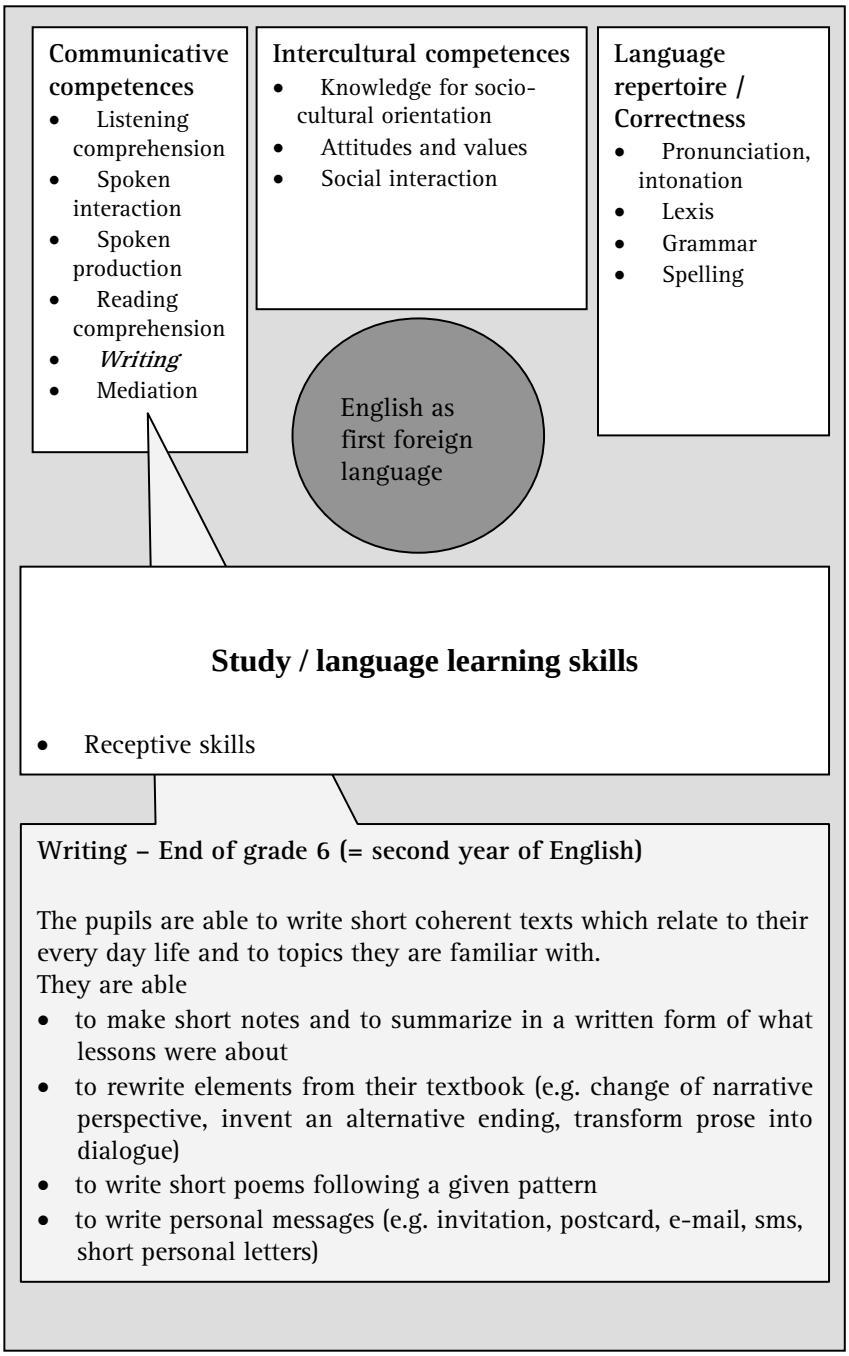
State curricula for Northrhine-Westfalia used to be very comprehensive and bulky documents – in many cases well above 100 pages. Besides attainment targets these documents contained sections on the functional load a particular subject carries for the general education of young

people, on the structure of the discipline, on the art of teaching and learning, on assessment, on cross-curricular projects and on the obligation of schools to implement curricula by specifying content, topics and targets. These documents can be characterised as blueprints for an ideal classroom with almost perfect teachers and learners. They present options, explain complicated methodological issues and encourage teachers to try out innovative strategies of subject teaching and classroom management. The new core curricula are rather slim documents with very explicit imperative messages. They are structured into four chapters:[4]

- general aims and objectives of a particular subject
- a profile of competencies all pupils should have acquired at the end of (lower) secondary education (15+)
- waystage profiles for grades 6, 8 and 10
- model tasks for assessment.

Basically, the documents contain mandatory performance standards (competencies + model tasks) and leave everything else to the schools and their responsibility for the quality of teaching and learning.

[4] Current news on core curricula and their implementation is accessible at http://www.learnline.de/angebote/kernlehrpläne/


Communicative competences
• Listening comprehension
• Spoken interaction
• Spoken production
• Reading comprehension
• Writing
• Mediation
Intercultural competences
• Knowledge for socio-cultural orientation
• Attitudes and values
• Social interaction
Language repertoire / Correctness
• Pronunciation, intonation
• Lexis
• Grammar
• Spelling
English as first foreign language
Study / language learning skills
• Receptive skills
Writing – End of grade 6 (= second year of English)
The pupils are able to write short coherent texts which relate to their every day life and to topics they are familiar with.
They are able
• to make short notes and to summarize in a written form of what lessons were about
• to rewrite elements from their textbook (e.g. change of narrative perspective, invent an alternative ending, transform prose into dialogue)
• to write short poems following a given pattern
• to write personal messages (e.g. invitation, postcard, e-mail, sms, short personal letters)

This diagram shows the curricular pattern ('structure of the discipline') for English as a first foreign language and gives an example of how standards are structured. In the case of English it is a two-level technique with a fairly general 'descriptor' of a competence as a mandatory attainment target followed by several 'indicators' relating the standard to more practical and concrete activities.
The development of core curricula for German (L1) and English was dominantly a matter of re-formatting existing curricula (*Lehrpläne*) and of harmonising curricula for the four types of secondary schools. For mathematics the situation turned out to be different. With the new curricular structures a new didactic structure was introduced to the schools.

The 'old' generation of *Lehrpläne* was exclusively focused on competences related to content areas such as geometry, arithmetic etc. The new core curricula defined subject-based competences through two columns of competences carrying the same didactic weight. They relate to:

- the process: communicating/arguing, problem solving, modelling, applying methods and tools
- the content: algebra/arithmetic, mathematical functions, geometry, stochastic theory.

For the first time in the history of the Northrhine-Westfalian educational system, the curricula for the four types of schools (Hauptschule, Realschule, Gymnasium, Gesamtschule) in lower secondary education are in complete sync. For each of the core subjects the commissions (with members representing the four types of schools) first established a curricular paradigm (structure of the discipline). Then they defined the common core of subject-based standards. Finally, they defined the

specifics for the different types of schools and the three different attainment levels of school leaving certification. At least for the core subjects the system now is transparent and coherent. When the work was done, it came somehow as a surprise that the four types of schools shared approximately more than two/thirds of the standards although the commissions were asked to differentiate as much as possible in order to represent the individual learning and teaching cultures of Hauptschule, Realschule, Gymnasium and Gesamtschule.

Although the concept of performance standards is completely new to German schools, teachers seem to accept them as a new curricular format and to value their transparency and coherence. Northrhine-Westfalia´s new core curricula were extensively piloted in a considerable number of so-called reference schools and have been discussed with leading schoolbook publishers, teachers unions and parent associations. Presently, the climate in Germany seems to be favourable for compact and unambiguous curricular orientation by the state administration. The recent curricular development in Northrhine-Westfalia is in line with developments at the federal level. Actually, there is a common curricular framework of standards for the core subjects for all the 16 German Länder. It was formally adopted on 4 December 2003 by the Standing Conference of Ministers of Education (KMK).[5]

Both, the core curricula in Northrhine-Westfalia and the federal standards are conceptually based on a study by Eckhard Klieme et al., which was commissioned by the Federal Ministry of Education. They (Klieme et al., 2003) define standards as the centrepiece of a complex system of school/classroom development:
'Bildungsstandards stellen damit innerhalb der Gesamtheit der Anstrengungen zur Sicherung und Steigerung der Qualität schulischer Arbeit ein zentrales Gelenkstück dar. Schule und Unterricht können sich an den Standards orientieren. Den Lehrerinnen und Lehrern geben Bildungsstandards ein Referenzsystem für ihr professionelles Handeln. Die Kompetenzanforderungen einzulösen, so gut dies unter den Ausgangsbedingungen der Schülerinnen und Schüler und der Situation in den Schulen möglich ist, ist Auftrag der Schulen. Mit Bezug auf die Bildungsstandards kann man die Einlösung der Anforderungen überprüfen. So lässt sich feststellen, inwieweit das Bildungssystem seinen

[5] Kultusminsterkonferenz (2003).

Auftrag erfüllt hat, und die Schulen erhalten eine Rückmeldung über die Ergebnisse ihrer Arbeit.[6]'

According to Klieme et al. (2003) subject-based standards should have the following three components:

- They should be directly related to or derived from general educational objectives. Without a strong link to these general objectives, subject-based standards would be nothing more than arbitrary expert opinions, neither would they have any legitimacy nor professional acceptance by educators and social leaders. Thus, one indispensable feature of core curricula is to explicitly spell out the educational 'philosophy' of a school subject and its specific contribution to general educational objectives.
- Standards should be derived from a coherent framework of reference and should be attributed to levels of competence. A system of competence levels facilitates the development of model tasks and assignments and the construction of assessment systems. Competence levels are also of great help to teachers, pupils and parents to understand what should be achieved and what actually has been achieved.[7]
- Standards should specify competence in such a way that the nature of expected performance becomes transparent. Consequently, core curricula should contain model tasks and assignments, which can be used in school-based as well as national assessment of classroom results. Without assessment, standards would not have any serious impact on quality improvement.

The federal standards as well as the core curricula in Northrhine-Westfalia contain model tasks for assessment in order to unambiguously specify expected competences. For foreign languages expected competences and tasks are based on the internationally accepted Common European Framework for languages and its competence levels.[8] For mathematics the Principles and Standards of the American NCTM were highly influential. For German as a first/native language such a framework of reference with competence levels does not exist. Neither do such systems exist for other subject areas (social sciences, ethics, art work etc.).

The issue of calibrating standards in such a way that (a) teachers have the impression that 'no child will be left behind' and (b) subject experts

[6] Klieme (2003), p. 13.
[7] Cf. Weinert (2001), Klieme (2004).
[8] Council of Europe (2001).

agree that all the relevant competencies to be acquired e.g. in mathematics are included – will be on the agenda until more empirical data are available. For the time being, the new standards seem to be rather ambitious, both at the federal and at the Länder level. The results from piloting demonstrate that teachers – especially from schools for the lower ability range (Hauptschule, lower stream of Gesamtschule) are in doubt whether they will be able to achieve the attainment targets which are about to be made mandatory through the new core curricula. Empirical data will soon come in either to substantiate the standards or to cast doubt on their attainability under present conditions. A new institute has recently been established at the federal level (Institut zur Qualitätsentwicklung im Bildungswesen)[9] – associated to Humboldt-University, Berlin – with expertise in sociometrics, standard development as well as large-scale assessment. The new federal framework of standards will soon be put to the empirical test. This institute is also commissioned to develop and empirically validate a reference system with competence levels – at least for the core subjects.

School-based assessment: 'Parallelarbeiten'

Already in the late 1990s, the Department of Education in Northrhine-Westfalia commissioned the State Institute for Schools, Soest, to develop manuals for school-based assessment in the three core subjects.[10] The general idea was that at four stages (grades 3, 7, 10, and 11/12) schools were supposed (obliged!) to administer a common test for all pupils, compare and analyse results, come up with strategies for the improvement of classroom practice and implement them. The following year, these strategies were to be reviewed and – if necessary – fine-tuned or abandoned. Although this procedure is school-based, the manuals have specified at least a framework for parallel assessment: model tasks, expected competences, criteria for assessing performance etc.[11]
There are four general aims associated with school-based assessment:

[9] 306th plenary session of the KMK, 04.06.2004, www.kmk.org/aktuell/pm040604.htm

[10] This must be seen in the light of a school-based certification system at the end of lower secondary education, i.e. there are no exams before pupils enter vocational training or proceed to upper secondary schools – neither school-based nor centrally administered nor entrance exams in receiving institutions. This, however, is going to be changed.

[11] Cf. series of manuals for German, English, mathematics, Ministerium für Schule, Wissenschaft und Forschung (2000).

- strengthen professional discourse and responsibility of teachers since it is up to them to collaboratively develop a common test and specify common criteria for the assessment of learning results
- focus the school´s attention on the evaluation of the classroom and on techniques of action research
- reflect common principles, techniques and procedures for subject-based assessment
- challenge schools to critically review their teaching methodology in the light of recent findings.

Such a measure initiated by the central school administration was at first considered an unfriendly act by many teachers and teachers´ associations aimed at infringing upon the self-determination of the profession of teachers and headmasters. At an early stage, there was a lot of resentment, and many schools attempted to avoid implementing school-based assessment because it would clearly show differences in performance of parallel learning groups as well as differences in the success of teaching. This kind of transparency was felt to be unpleasant and to make life more difficult – inside the staff-room, also in dealing with the inspectorate and with parents. The advantages of school-based parallel assessment for improving teaching and learning were clearly underestimated by the great majority of teachers.
Obviously, things are changing. Three years after the introduction of 'Parallelarbeiten' in Northrhine-Westfalia a representative survey was conducted (Burkard, Kanders, 2000). On the basis of 1,666 questionnaires the authors found out that more than 50% of teachers acknowledge the fact that parallel assessment has improved the professional cooperation at their schools and that teachers have agreed upon a common core of principles and criteria for assessment in the core subjects. However, only 12% report practical initiatives to review classroom practice and to improve the quality of teaching. In the meantime, it seems, the tide has turned. Empirical evidence from various German Länder shows an increase of acceptance and positive effects. A growing number of teachers see parallel assessment as a valuable tool for the professional learning community.

A comprehensive qualitative study on the effects of school-based parallel assessment was conducted in 2003 by Hänisch/Müller. They interviewed 68 persons (headmasters, teachers of German, English and mathematics) from 21 primary and lower secondary schools and collected relevant school documents. Their results indicate that the initial reluctance of schools to accept parallel assessment as a meaningful and effective measure of quality development is primarily caused by its top-down

mandatory implementation. Within school it is seen as another obligation, as a heavy burden, which has to be shouldered for the sake of the (political) administration. The very moment schools had started to combine parallel assessment with their own interests and objectives and had related assessment to issues being discussed in staff meetings for the core subjects, attitudes began to change. In many cases, the experience of collaboratively developing tests and sets of criteria for assessment was a fruitful and positive one. In a number of regions in Northrhine-Westfalia the inspectorate had initiated quality circles and extended the basis for parallel assessment to a number of schools. In these cases the analysis of results was of particular value. So positive reinforcement from the regional networks backwashed to the individual school. After the second or third annual round of assessment, the procedures were ritualised and deeply embedded into the structures of the individual school. Now, in the majority of schools, *Parallelarbeiten* are broadly accepted, and have found their place in the annual cycle of routine work.[12] With the upcoming central exams at the end of year ten and state-wide assessment in year nine, the obligation to stage parallel assessment in year ten has recently been withdrawn. In the future, schools may, but must not write parallel tests at the end of lower secondary education.

One might say that some of the objectives attached to parallel assessment explicitly (and also implicitly) have been reached or will be reached in the near future (strengthening of school-based professional discourse for core subjects, common standards for assessment, higher quality of tasks, transparency of criteria for assessment, higher aspiration on the side of the pupils, heightened attention on the side of the parents). However, the vast majority of schools – and Hänisch, Müller (2004) confirm this – find it extremely difficult to assess performance on the basis of criteria. Invariably, they document overall performance with reference to the social norm and compare and analyse the distribution of grades – comparing one group with the other, this year's results to last year's. Handling assessment results in such a way, it is extremely difficult to arrive at very practical strategies to improve teaching in a specific subject area. An understanding of evaluation-based classroom development and action research has obviously not yet reached German schools. And it is not a must for pre-service teacher training at the university level. One must admit that relevant literature and expertise on

[12] Cf. also the supportive material for schools on the web: http://www.learn-line.nrw.de/angebote/qualitätsentwicklung/

this issue is rather scarce.[13] When the State Institute for Schools Soest, organised a workshop with university experts for the core subjects most of them approached the issue of classroom quality through opinions and beliefs, rather than through subject-based evaluation procedures.[14]

Central assessment and the empirical validation of standards

By November 2004, Northrhine-Westfalia will have instituted state-wide assessment for the beginning of grade 9 based on tasks that are directly derived from the standards of the core curricula. It stands to reason that within a few years the German school system will be able to fine-tune its educational standards on an empirical basis.
If one looks at this system from the perspective of the schools, state[15]-wide assessment will be organised in such a way that schools can match their results against benchmarks to identify strengths and weaknesses for the core subjects. These benchmarks are based on a representative sample of schools and centrally processed performance data. The benchmarks are also adjusted to specific conditions - inner-city areas vs. rural areas, proportion of pupils with migration background, Hauptschule, Realschule, Gymnasium, Gesamtschule, special teaching provisions (CLILL) etc. At present, tools, tasks and procedures of state-wide assessment are piloted so that in November 2004 all lower secondary schools will participate for the very first time.
There are three objectives for state-wide assessment of core subjects:

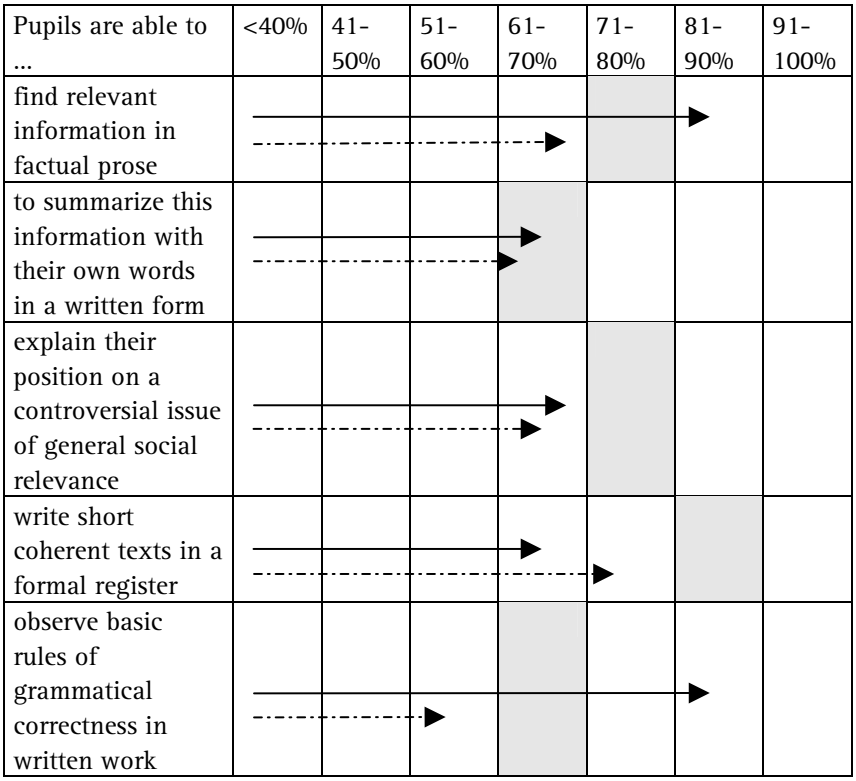
- at the systemic level, politicians and administrators can base their decisions concerning the regulation of context and input conditions for teaching as well as the allocation of resources and support for schools on reliable performance data
- at the level of the individual school, the professional bodies can base their strategies and priorities for classroom and school development on the analysis of the school's achievement compared to other schools or benchmarks
- at the level of the individual learner, teachers, parents and pupils can identify strengths and weaknesses and organise remedial work geared

[13] See exceptions to this rule: e.g. Helmke (2003), Eikenbusch (2001) Leuders (2001).
[14] Landesinstitut für Schule und Weiterbildung (2001).
[15] Refers to the Land Northrhine-Westfalia, not to entire Federal Republic of Germany.

to the pupil's needs so that requirements for the examination at the end of grade 10 can be met.

The State Institute for Schools, Soest, is responsible for the preparation and implementation of state-wide assessment, for on-line publishing of benchmarks and for analysing and documenting the results.[16] There are high hopes that schools will make professional use of assessment data for the improvement of classroom quality, although previous experience with parallel assessment does not really justify optimism.

Take the following hypothetical example. School XYZ (⟶) scored the following results for English as a first foreign language:



84% of this school's pupils mastered the reading comprehension task. Thus, the school scored better results than the state-wide average (▭) of comparable schools (inner-city grammar school with a minor proportion of pupils with a migration background). In two writing tasks they fell below the benchmarks and did significantly better on grammatical correctness. In this case, it seems obvious that English

[16] For details see www.learn-line.nrw.de/angebote/standardsicherung/

teachers should be concerned with their teaching routines and their curricular priorities as well as their classroom methodology. They should discuss amongst themselves strategies to improve writing skills or invite an outside expert on the methodology of writing in foreign language teaching. Finally, they could arrange for action research work. With next year's assessment and analysis of assessment results they would have at least some evidence whether their new teaching strategies were successful or not.
Take the case of school ABC (-·-·-▶). In this fictitious case assessment results fall short of 'national' benchmarks on all scales. This is a strong indicator for the school to review input factors ('Have we chosen the right textbook?', 'Is our school curriculum in line with the national standards?', 'Are our teachers well qualified?' etc.) first before analysing classroom practice.

Internal evaluation of school development: work on school programmes

In 1985, the term 'Schulprogram' appeared for the very first time in an official document published by Northrhine-Westfalian school authorities. Primary schools were asked to take up more pedagogical responsibility and to summarize their initiatives in a document called school programme. During the first phase (1985–1995), work on school programmes was optional and there was no uniform framework or format for these documents. Today one can look back on this period and can find a great variety of programmes – most of them written with enthusiasm and a willingness to set sails and ride the winds of change. The white paper '*Future of Education – School of the Future*'[17] stood at the beginning of the second phase (1995–2001) of school programme development. An independent commission proposed a comprehensive system of initiatives to strengthen the individual school and to integrate measures of quality control into the educational system. Evaluation and school programmes were given priority. In 1997, school programmes were made mandatory and schools were given three years time to come up with their own programme. At the same time, central administration worked on a framework for school programmes and on a set of procedures schools had to go through in order to discuss, develop and formally adopt their own programme. All this was included in a manual

[17] Bildungskommission NRW (1995).

which appeared in 1998.[18] Supportive material for evaluation (principles, tools, procedures) followed in 1999[19]. A state-wide teacher-training programme went into operation in 2001. In the meantime, rules and regulations for the 'dialogue' between schools and the inspectorate on the basis of the school programme were specified and enacted as binding law. This first state-wide dialogue was scheduled for the period January 2001 until September 2001 and documented by a uniform set of questionnaires, which were processed at the State Institute for Schools, Soest. Several internal and external evaluation studies[20] of the work on school programmes have completed the overall picture and have prepared the scene for the third phase of school programme development which is well underway now.

For schools in Northrhine-Westfalia, the school programme is a document in which they

- clarify their pedagogical aims and objectives and the course of development they have decided to take
- take up responsibility for the quality of education and explain tools and procedures, which they have implemented for this purpose. They discuss achieved teaching and learning results in the light of their specific school context
- present a bird's eye view of the actual complexity of their pedagogical work with special attention to the classroom

The process of drawing up a school programme is expected to develop an integrating force and to create a common sense of accountability within the school community. At the same time, the school programme is the basic document for all negotiations with the regional inspectorate and the local education authorities. Formatwise, it is not a thoroughly standardised document and opens up to the school's creativity and its individual strategies of presentation.

On the other hand, the regional school inspectors have a more or less fixed set of questions when they communicate with schools on the basis of their programmes. They want to know

- who is responsible for the coordination of the work on the school programme

[18] Ministerium für Schule, Weiterbildung, Wissenschaft und Forschung (1998).
[19] Ministerium für Schule, Weiterbildung, Wissenschaft und Forschung (1999), Burkard, Eikenbusch (2000).
[20] Ministerium für Schule, Wissenschaft und Forschung (2002).

- whether the whole school community (staff, pupils, parents) is/was engaged in drawing up and deciding upon the final version of the programme
- to which degree work on the school programme is organised as a continuous process
- which concrete measures of evaluation have been conducted, in which areas, with which instruments and what results
- how the school reacts towards the needs and interests of its specific local and regional context
- to what extent it works on an individual pedagogical profile.

With the advent of standards and core curricula, school-based parallel assessment, central assessment and central examinations, the school programme is the document were all the strengths and weaknesses should be openly discussed and initiatives of classroom improvement should be contracted. It is, indeed, the central document and process for school as a learning community where all the strands of evaluation are tied together and where all decisions are based on reliable data.

Concluding remarks

Little can be said concerning the pattern of upcoming central examination at the end of lower and at the end of upper secondary education. Preparatory work has been initiated. The public has been informed that at the end of school year 2006/2007 Northrhine-Westfalia will have its first round of central exams. Whether there will be centrally processed samples or not is not quite clear. Fact is, as from next school year *Gymnasien* and *Gesamtschulen* will have to reach standards at the end of upper secondary one year earlier than ever before. In order to mach international standards, there will be a 12-year curriculum to the *Abitur* instead of 13 years.

On the issue of modernising the school inspection system decisions will be taken by autumn 2004. It seems that the administration and the political decision makers very closely observe what is happening in the Netherlands,[21] in Sweden, and Scotland. There can be little doubt, that the existing inspectorate will go through radical changes at the regional level (5 *Bezirksregierungen*) and that local school authorities will be strengthened in their functions to give support to the individual school rather than exercise more control.

Looking at German schools and particularly at schools in Northrhine-Westfalia, the acceleration of change and the almost complete change of

[21] Ministerium für Schule, Jugend und Kinder, Inspectie van het onderwijs (2003).

perspective from input-orientation to output-control and evaluation is breath taking. With a tremendous professional load on the teachers (size of classes, weekly load of teaching hours, new behavioural patterns on the side of pupils, patchwork families), it remains to be seen whether they and their headmasters can face the challenge and make the well devised and well-intentioned reform initiatives work for a better educational future. If the underlying philosophy of these initiatives is not communicated with the schools or is not understood by those who teach, the measures themselves will not automatically produce better schools. Whether these reforms are for the better or worse of school education in Germany will heavily depend on the administration to keep their promises and drastically reduce the plethora of directives, statuary rules and regulations still limiting the scope of the schools′ competence to take care of their own affairs. If these reforms based on central control through standards, assessment and examinations are simply added on top of traditional input-steering mechanisms, they certainly will not develop their inherent potential for quality development in education.

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The competency-based content regulation system in Hungary

Vilmos Vass

Summary

The reform process that started in the late 1970s prepared the development of content regulation system in the Hungarian educational system. The 1985 Public Education Law broke up the monolithic system of the prescriptive curriculum, and the opportunities of schools to develop their own curricula and profiles became wider. This process accelerated in the 1990s, when local curricula and educational programmes were prepared in schools. The experiences of the curriculum improvement show that a structural change is necessary to the development of the quality and effectiveness of education: the renewal of the national core curriculum, curricular packages (curricular and methodological support) and the local curriculum. The revised 1995 national core curriculum balances the content-based and process-based approaches, emphasizes activity centeredness and the development of key competences. The development of competency-based educational programmes and the implementation of the revised national core curriculum give a chance to achieve a permanent, predictable and accountable process in Hungarian education. The emphases from the earlier curriculum-centred regulation are changed over to a system supporting real learning and teaching processes.

Introduction

In the period of economic and political transition, the educational development in Hungary has undergone a differentiated process of careful transition from central curriculum steering to a more balanced process of mutual responsibility. On the one hand, the national Hungarian government sets a solid framework, on the other hand the local interpretation adjusts the demands to the wishes and possibilities of local owners and stakeholders of the educational process. The focus in Hungary is educational content; the main steering process is called 'content regulation.'

The importance of context

'*It is not the curriculum that governs the school, but the education plan, which takes the circumstances into consideration.*' (Árpád Kiss)

These thoughts from the Hungarian pedagogue Árpád Kiss (1976) are in fact about the decentralised content regulation system, which began with the 1985 Public Education Law. Institutions got increasingly wider opportunities to start building up their own distinctive images, by which the monolithic system – built on prescriptive curriculum – was broken up. The roots of this process could be traced in the 1978 curriculum. Differentiation in the curriculum and focusing on educational issues provided schools with a wider sphere for manoeuvring. The reform, which started in the 1980s, had a great impact on the content of education, too. New educational areas (social and civil studies, media and moving picture culture, enterprise and economy studies, etc.) were built in the Hungarian educational system. Launching of experimental programmes increased and local innovation got considerably stronger. In the early 1990s, the renewal of the content regulation system accelerated. The system became *two-poled* along the codification work of the education policy and the constant self-improvement of schools. According to Zoltán Báthory (2001) 'the central trend of two-poled regulation is the national curriculum, while the local trend is the local curriculum, or to put it more precisely, the local curriculum is the local educational programme of the school'. It is obvious that both poles possess equally powerful regulation potentials, which have also been declared by the script of the 1995 national curriculum. Schools were provided with such a sphere of manoeuvring, that the core curriculum could fulfil its function to contain a common educational ground for all Hungarian learners. This common educational ground, a system of competencies and knowledge, which can be supplemented or improved in accordance with the local circumstances – which Árpád Kiss considered to be of great importance - by the local curricula.
The system seemed to be very flexible because the institutions had great freedom in developing educational programmes. They could form their own identities and images, legitimise their pedagogic practices, or change their profiles. Meanwhile the national curriculum was constantly maturing but it changed little in its pedagogic and education-political character. It emphasized the development of skills in its general and common system of requirements, and was bearing the chance to strengthen the methodological culture by intermediating interdisciplinary education content. It carried the education-political message to assure the

common educational grounds that are necessary for all. The interpretation of the definition committee of the Ministry of Education also confirmed this by declaring that the national curriculum is a 'central document which prescribes the common curricular requirements, the compulsory school activities and the aims of education for which all learners are entitled to'.

Power of programmes

Preparation work on the local curricula also began alongside the development of educational programmes in schools. It quickly became evident that the autonomy of the institutions, the distinct pedagogic image and the manoeuvring of the economic sphere did not coincide with the strengthening of curriculum development competencies of the teachers. The curricular data bank of the national public educational institute undoubtedly got filled up rapidly and numerous sample-curricula were published. The 'earliest bird' was the sample collection from Borsod-Abaúj-Zemplén county, 'How to make a local curriculum' (Balla & Szebenyi, 1993). The patterns, which helped the development of local curricula in institutions with practical ideas gained similar popularity. However, the crutches were only suitable to serve one purpose: to create the local curricula within the deadline, which were prescribed legally in the educational programmes. Then adoption occurred in great volumes. Local curricula of the 1990s (with few exceptions) were made for the drawer, for exclusively administrative purposes, like the syllabuses of the 1970s. It has become obvious that the quality and effectiveness of education cannot be increased by curricula. The volumes of 'administrated quality' increased, which was even strengthened by the profit-oriented quality assurance prescriptions.

From two to three levels

Given this situation, it is worth forming the previous two-poled system of content regulation into a *three-levelled* one while preserving its advantages.

National core

The first level would still be the national core curriculum. The strategic feature of the document is gaining more and more importance which means a theoretical, philosophical and perceptual ground determining the main areas of knowledge to be intermediated, the periodization of

content (year 1-4, year 5-6, year 7-8, year 9-12), and the relevant development tasks for each content period. The unity of education is demonstrated by the prominent importance of the principles and improvement tasks. It is a strategic document. It serves as a degree of measurement for education researchers, maintainers, principals, those who deal with education policy, and the wider public. It intends to interfere into the world of school to a far less extent but is devoted to reviving the system of local curricula still lying in the drawer. It aims at the world of real curriculum, the quality improvement of the learned and taught curricula.

Curricular and methodological support

This is a system of optional frame-curricular recommendations, which are compatible with the national curriculum. It means detailed instructions, which contain the system of subjects for:

- the given school type and period
- the available time (number of lessons)
- the division and structure of content
- the guiding principles of evaluation
- the output requirements that finish the given period
- the other content and form elements, which are included in the law of education.

According to these, the frame curricula make the system of development and requirement tasks of the national curriculum tangible for the staffs of the schools, course book authors, producers of instruments, elaborators of requirement systems and improvers of assessment instruments. It has a supportive factor for it helps the institutions in revising educational programmes. Following the accreditation process, these frame curricula get to the specified actors. On the other hand, this second or medium level is a methodological set too, since the frame curriculum is also part of a curricular package programme, a system of professional instruments and documents, which help the planning, and organization of the teaching-learning process.

We can talk about comprehensive curricula, which concern one or more educational areas and subjects. The curricular packages have an impact on the subject programmes and on the teaching-learning process besides the revival of the local curricula. It works like ‘Lego’ since the individual components are matched with their own practices (taught curriculum), with the characteristics and interests of their own learners (learned curriculum), considering the changes of local circumstances (educational programme) by the work-groups. The components of the curricular packages are the following:

- either the whole or relevant parts of a given accredited frame curriculum
- educational concept which summarizes or may support theoretically the pedagogic principles on which the programme is based
- description of modules: provides a detailed description of the course for processing a given topic, and most important of all it provides a list of learner activities and a list of recommended instruments
- the instrumental components which facilitate the execution of the planned activities can be: a) information carriers: course books, texts, pictures, films, cassettes, models, CDs, etc. b) task carriers: text books, work books, etc. c) combinations of the previous two: software etc.
- assessment instruments which promote the control and assessment of learners' performance and development
- trainings which prepare the teachers for the implementation of the programme
- support, advisory and maintenance of the programme on behalf of the group who developed the programme.

The main function of the medium level is to provide alternatives. It versatility supports the integration of the principles and development tasks of the national core curriculum into the local curricula. It focuses on the local curriculum by developing teacher competencies and makes the institutions interested in the combination of certain elements in a pedagogic and curriculum theoretical sense; it also encourages further improvement rather than a mere adoption or copying of programmes.

Local curriculum

On the third level of content regulation, we must not neglect those institutions that create their own local curriculum to achieve larger accommodation to the local circumstances and present a more distinct image. The secondary schools' local curricula unavoidably take the requirement system of the GCSE into consideration. This means that the system of content regulation is *mixed* since it is built on the coherent system of a very flexible 'soft' input regulation (national core curriculum) and a 'hard' output (GCSE) regulation. The contradiction in this case is double: both components of the mixed regulation system depend on one another. Unfortunately, part of the output requirements appears in the later period of primary school making the desired balance between gaining academic knowledge and developing skills impossible to achieve. Building the processes on one another into unity would be confirmed by a system of exams, which would provide diagnosis for the development tasks in primary schools. Operating and developing this – building on the

already given grounds – diagnosis, support and constant improvement of the whole system is necessary.

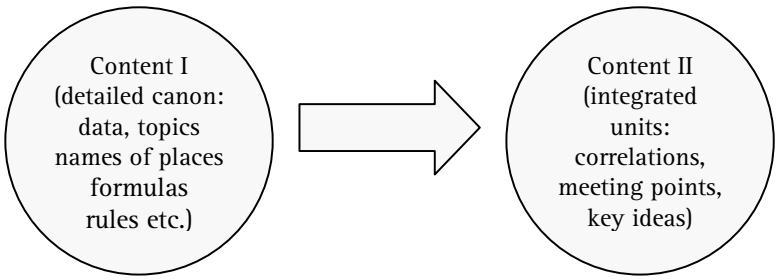
The activity-centred character of the content regulation system

Szebenyi (1993) described three types of curricula:

- topic-centred (thematic) curriculum, which focuses on the load of content to be taught
- activity-centred (didactic) curriculum, which focuses on the activities of the learners
- performance-centred (taxonomic) curriculum, which focuses on the levels of performance.

What is the reason then that learner activities come to the forefront in the whole system, especially in the revision of the national core curriculum? Given the era of the information boom as well as researching academic knowledge, it is obvious that we also have to rethink the curricular subject content. In the first type, the two levels of curricular content can be divided. On the first level, we can find the curricular content which presents the most important data topics, themes, ideas, formulas, and names of places, persons, works, and grammatical rules in the form of a detailed list ('canon'). For long, the curriculum was nothing more than the vertical and horizontal organization of the workload (Szebenyi, 1994). On the second level, we can find those contents, which are assemblages, meeting points for several topics and focus on key ideas relevant with respect to intermediating culture (figure 1).

Figure 1: The two levels of curricular content



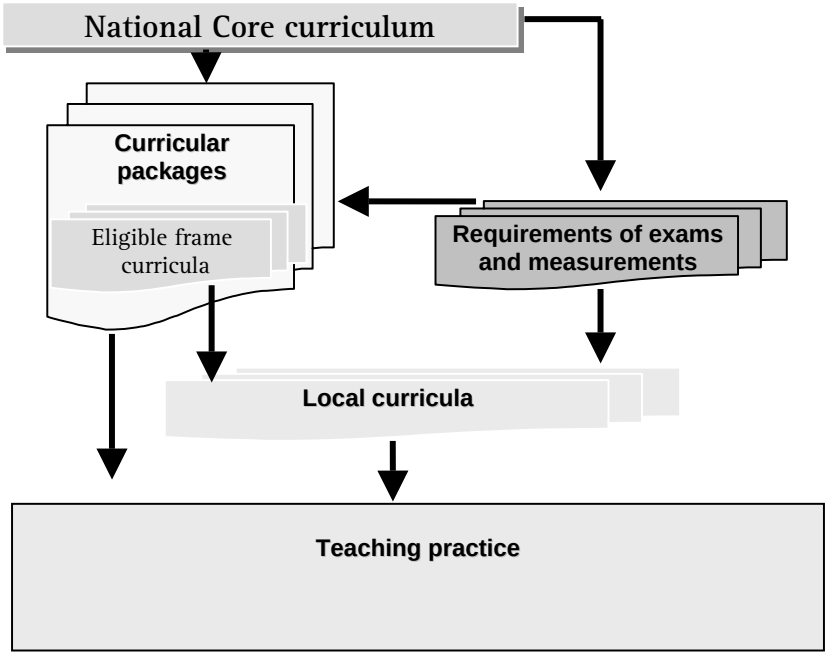
If one of the strategic points of the core curricular revision is the representation of the more interdisciplinary curricular content, which is intermediated by the division of knowledge areas, then it is clear that the second level of the curricular content perception appears in the document largely. Latest ideas, which distinguish two curricular content types in curriculum design such as content and process-based approaches, also have to be built on. In the first case, the content of knowledge areas is divided into topics and then into activities, while in the second case, thinking skills and individual behaviour patterns have an impact on curricular content ideas, topics and finally on the learner and teacher activities (Costa-Liebmann, 1997).

Figure 2: Content and process-based approaches

Content-based	Process-based
Knowledge area/subject content	Thinking skills, individual behaviour patterns,
Topics	Curricular content
Activities	Activities

When revising the 1995 national core curriculum the two approaches have inevitably amalgamated. As a result, the confirmation of general development and common requirements and the partial abandonment and restructuring of the detailed system of requirements have taken place. In addition to this, improvement of personality, the enrichment of motivation and knowledge is an extraordinarily important task.
'The general (non-central) curriculum has to settle what sets of skills, competencies and motives have to be learned in order to improve these basic components' (Nagy, 1994). Deriving from the character of the regulation system (two-poled, three levelled, mixed, activity oriented) as well as in legal sense the frame curricula have to create the detailed division of the curricular content while performance-centred tested curricular feature appears at the output point (see Figure 3 about the system as a whole).

Figure 3: The system of content regulation



Strengthening of skill centeredness

The 1995 national core curriculum is an important component in the interpretation of activity centeredness. We have earlier national and international research data (among others the Szeged workshop of József Nagy, József Zsolnai, László Gáspár's programmes, Benő Csapó's researches, the key competences of OECD, the viability groups of foreign core curricula, the DeSeCo programme etc.), which facilitate the inclusion of the revision into a key competence system (academic knowledge, skills, competencies). The opportunities to organize the core curricular content around competencies possess priority in the education programmes of the European Union (Eurydice, 2002).
In the introduction of the revised national core curriculum the following competence areas are mentioned: *'the communicative, narrative, decision making, rule abiding, relevance finding, cooperative, problem-solving, life management, and such key competencies which are related to handling complex information. The ways of skill improvement may differ, they can be based on various experiences or wide range of combinations of information',* which can be considered as the key to life, work, and

modern knowledge. Since skill improvement is a differentiated diversified process, which works by various contents, therefore the inclination for learning is easier to arise.

Role of competencies

Three elements are noteworthy in the sphere of communication. The usefulness of improving the first and second language skill groups cannot be questioned. As a third component, the culture of debate is worth mentioning, the skill group of listening to and understanding one another. It is one of the 'flagships' of civil and social studies, a vital factor in the democratic cohabitance. For decision-making competence the starting point is that both teachers and learners gain more and more rights to form their lives and careers. Thinking over possible solutions, clashing the pros and cons and analysing dilemmas are included in numerous education areas' improvement tasks. The competence area *life management* is about life quality. It includes environment conscious, health improving and consumer protecting elements, too. It also includes career building and preparation for the roles of adult hood and time management, as well as the balance between work, family life and free-time activities. Cooperation competence is an important demand of the workforce market on the one hand, and on the other, such motivating methods can emerge like cooperative learning, discussion, drama and project work. When mentioning information handling competence it is not just gaining the information from various places with various techniques, but it rather means the conscious relevant, and pedagogically reliable selection and integration and the knowledge transfer in which the learner is capable of using all these in a new area. The examples, which are mentioned here and are far from a full list, point in one direction: the effective and continuous development of learning skill groups independently from school periods and types.

Consequences

The most basic consequence of the competence-based curricular revision is the restructuring of the detailed system of requirements of the 1995 national core curriculum. This means that the 'various combinations of knowledge' are worked out by improvement tasks and contents. What do we mean by improvement tasks? The elements of requirements towards the schools teaching and pedagogic services are the direct determination of teachers' tasks in the sphere of developing learners' skills. These mark the key competencies, which are desired to be improved in the given

period of schooling. Of course, they can be described at different levels of abstraction and they can put the emphasis on different aspects of the pedagogic process. They can often appear as description or naming of the learning organization activity, or in other cases, it includes the naming of the learner activity to be implemented to improve. So the caesuras which can be found in the document (year 4, 6, 8, 12) are not output points which contain requirements, but periods of development which are to be handled flexibly.

Institutional support

Parallel with the processes described above, work on competency-based educational programmes has started recently at a newly established curriculum development institution within the framework of the National Development Plan. Within this framework programme packages are developed with the aim of providing professional support to improve learners' and teachers' competencies. These programme packages will contain all the necessary components for a certain teaching - learning process. Besides the teaching instruments, it will describe the teaching - learning process, the management of classroom work and the instrument for assessment.

As for implementation of programme packages, they can be:

- integrated i.e. integrate one or more curriculum or subject areas
- linked to one curriculum or subject area or part of one curriculum area
- cross-curricular
- extra-curricular.

The description of these programme packages will include: the underlying principles, the links to the curriculum, the description of the modules, the recommended teaching aids, the instruments for assessment, training for teachers, and the support and advisory system for teachers.

The aim is to support the development of programme packages in the following six competency areas:

- text comprehension and text production
- mathematics
- foreign language
- ICT (information and communication technology)
- social competencies
- career development.

Finally, yet importantly, it is necessary to emphasise some principles about the structure of the content regulation system and its continuous introduction. The implementation of the national core curriculum is divided into the following periods (Pőcze, 1995):

- January-March 2004: publishing the frame curricular samples[1], publishing the executive decree, the start of education programme development
- February-15 April 2004: revising pedagogic programmes and local curricula in schools
- 15 April-30 June 2004: pedagogic programmes and local curricula handed in to the maintainer of schools
- from 1 September 2004: introduction of the revised national core curriculum in the first grade
- from 1 September 2005: testing of the curricular packages based on the above-mentioned competency areas.

Conclusions

In the above-described structure of the revision of the national core curriculum, the way of introduction and implementation also indicates that from the schools' point of view a preparation and development phase is clearly distinguished from the construction and creation of programmes. [2]

The aim is to support and motivate making professional decisions at a local level. After this, a testing and assessment phase begins when the institutions diagnose and 'service' their local curriculum and examine its effectiveness and working. This is closely connected to the quality improvement of the institution. Therefore, in the second phase of implementation, the emphasis falls on the support, strengthening and improvement of the pedagogic methodological culture and improvement at the institutional level. In the long run, the structured introduction of the document and the closely linked content regulation system (with special attention to the level of frame curricula, education programmes, programme packages) provide an opportunity to begin a calm predictable period. This supports the daily practice of teaching and learning with greater efficiency and wider professional consensus.

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[1] Education Law 8. § 9. Frame curricula authorised by the Minister of Education support meeting the requirements of the national curriculum.

[2] Education Law 129. §. 6. Revising the local primary curriculum can be done in two steps: by 30 June 2004 revising the curriculum in year 1-4, by the following year (highlighted V.V.) revising the curriculum for year 5-8.

It is obvious that the national core curriculum is not a 'wonder weapon'. It is not capable of causing miraculous changes from one day to the other, but it can be hoped that the content regulation system, which is generated by having revised the national core curriculum, will elaborate the desired content and methodological innovation in modern pedagogic thinking, which began in the 1980s.

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Increasing the focus on skills in a subject-based curriculum: a Wales perspective

Hugh Griffiths

Summary

This contribution describes the present national curriculum for pupils aged 11 to 19 in Wales.
This largely subject-based curriculum has been implemented since 1988. This has raised standards of attainment overall but does not fully meet the needs of all young people, in preparing them for life and work. It therefore does not meet economic and social needs in Wales. The paper describes the challenges that the Qualifications, Curriculum and Assessment Authority for Wales (ACCAC) faces in developing a curriculum that better addresses the needs, interests and aptitudes of more young people aged 14 to 19, and provides them with the competences and skills required in the modern world.

The paper describes specific changes being considered to place personal competences, including key skills and work-related skills, more centrally within the school curriculum. It also describes a qualification that is being piloted in Wales that gives credit for such wider learning.

Compulsory education in Wales

Compulsory education in Wales lasts from age 5 to 16. It is taught in primary schools from 5 to 11, and secondary schools from 11 to 16. There is also a strong tradition of pre-school provision in Wales for 3 and 4 year olds. About 80% of young people now stay in education or training until 19 or beyond (Welsh Assembly Government, 2002).

Until the 1980s, secondary schools were of two types - 'grammar' and 'secondary modern' schools. Entrance to grammar schools, which still exist in parts of the UK, was through examination at age 11. These schools offered an academic curriculum aimed at preparing their students for public examination as a route to university, and eventually professional careers. For these young people, the route beyond school was clear and determined by their subject interests and abilities.

'Secondary moderns' accepted those who failed this entrance examination. They offered a curriculum that was more practical and less academic. It focussed far less on sitting public examination passes and did not seek to prepare young people for further education beyond 16. It was designed to provide these young people with the basic skills needed for life in the home, the community and for less professional, perhaps manual, jobs.

This division of young people at age 11 was increasingly criticised, on educational grounds. By the early 1980s most of the grammar and secondary modern schools had been merged into 'comprehensives' and the entrance examination abolished. The comprehensive system was developed to provide equal opportunities for all young people, allowing them to mature before making choices linked to their aptitudes and interests.

State comprehensive schools now educate almost all 11-19 year olds in Wales. However, the change to the structure of secondary schools was not matched by a sufficient broadening of the base of the curriculum. The comprehensives still offer a curriculum that is based very largely on the academic grammar school model that they had displaced.

The secondary curriculum (ages 11–19) in Wales

Although the content of what is taught has evolved, the range of subjects in the lower secondary school curriculum differs very little from that in schools in the early part of the 20th century (Annex 1). New subjects, such as technology and information technology have been introduced more recently, but its basic structure remains. The curriculum is built around academic subjects, and has features inherited from the past, and what was judged important at that time.

By the 1980s, there was dissatisfaction with the quality of what was offered at many comprehensive schools across the UK. To tackle perceived inequalities in provision and standards, the government introduced a national curriculum in 1988 to be taught to all pupils from 5 to 16 (ACCAC, 2003). Some subjects, namely English, Welsh, maths, and science, were deemed to be vital for all young people because they provided important capabilities and had, for long, been required for entry to further education courses and employment. These were given the higher status of 'core' subjects. Currently, pupils sit national tests in these subjects (only) at 11 and 14. These core subjects are compulsory to age

16. Almost all pupils sit external examinations in English, maths and science; and about two thirds take examinations in Welsh also.

Teachers in the secondary phase in Wales are mainly specialists in a single subject. In their teaching, they draw heavily on their subject expertise. With the introduction of the national curriculum, primary teachers, too, became more subject focussed, although each primary teacher normally teaches across a range of subject areas. The national curriculum thus reinforced a subject-led approach to teaching, and did not strongly promote links between subjects. It has also failed to raise the status of those things schools provide that are aimed at developing the skills that all young people need for life and work. Others involved – parents, employers, and universities - also continue to focus on those areas that are traditional, academic and subject-focused.

Pupils' and schools' performance in examinations at age 16 has shown overall improvement year on year since 1990 (Welsh Assembly Government, 2004). However, overall improvement has slowed significantly since 2001. Even now, about 50% of young people fail to get 'good passes' in a reasonable number of subjects at age 16 (Welsh Assembly Government, 2004). In addition, certain groups of pupils have not shared in the general improvement shown by others and demonstrate poor achievement in relative or absolute terms. Further, improvement in the core subjects of English, Welsh, and mathematics, and the development of vital skills in literacy and numeracy, has not matched that in other areas (Welsh Assembly Government, 2004). This provides strong evidence that the curriculum does not suit all our young people, especially from age 14 upwards.

Many secondary schools in Wales find it hard to keep attendance at a satisfactory level, particularly from age 14 until the minimum school leaving age of 16. Almost all schools consulted during a review of the curriculum in 2003-04 consider that the national curriculum needs to place more emphasis on the needs of the learner, particularly in developing the young person's skills, and preparing a young person for the world of work. In order to re-engage some disaffected students, some schools have worked with local businesses and training companies to develop their own 'alternative curriculum'. This focuses on developing basic and work-related skills. These arrangements help keep pupils within the school and the education/training system, reducing absenteeism or possible exclusion, and improve their self-confidence and essential skills.

However the price is often a narrowing of the curriculum that these young people follow.

Assessment and qualifications at ages 11-19

There is heavy emphasis on assessment in our education system, particularly on assessment by externally-set tests or examinations (Annex 2). National tests at 11 and 14 were introduced in English, Welsh, maths and science in the mid 1990s. Schools' results in these have been linked to national targets and the outcomes published. This has resulted in teachers placing less emphasis on other areas of the curriculum, especially at times when they are preparing pupils for the national tests.

For older students, assessment is through examinations for gaining national qualifications. These largely entail written examinations, although there is some teacher assessment and, in some cases, project or practical work. At age 16, pupils sit external examinations in English, Welsh, mathematics and science, along with about 5-8 other subjects of their choice. Overall performance in these examinations determines whether the young person is likely to go on to further study (leading to university); or undertake a more vocational course or job-related training. Those who opt for further study, often in the 'academic' route, will sit further examinations, usually in 3 or 4 subjects, by age 18-19. The outcomes of these are used by universities for selection purposes. Young people must achieve passes if they are to be accepted for any college/university course. Where there is heavy competition for places on particular courses or establishments (e.g. 'Oxbridge'), universities in the UK select students according to their grades in the external examinations.

Qualifications in Wales are thus 'high stakes'. They are not used just to recognise achievement but for selection purposes. The results determine what path the young person may take at 16, and at 19. In recent years, the government has also held schools increasingly accountable. Performance in public examinations has been used to measure the performance of individual schools, as well as of pupils, using national tables showing the performance of schools. National statistics based on examination results are used also as a measure of the performance of the school education system as a whole (Welsh Assembly Government, 2004).

In Wales, 16-19 year old pupils have traditionally studied only three subjects, often in closely related subjects (e.g. maths, physics and chemistry). A review of post-16 education concluded that young people were specialising too early. In 2000, the government revised the

qualifications available to encourage students to study four, or even five, subjects (ACCAC, 2000). This has made the curriculum very crowded. One result is that less time is spent on other curriculum areas that do not lead to 'high stakes' qualifications. Young people have fewer opportunities to have experience of work, and to undertake activities that develop personal and social skills. Government initiatives and targets have thus led schools to place less emphasis on young peoples' wider skills, and have had the effect of narrowing post-16 the curriculum further.

Some qualifications are also valued more than others, even though they may be at the same 'level' in our qualifications framework. A range of vocational qualifications has been made available for schools to use from age 14 upward. (ACCAC, 2004). These provide a broad experience of a vocational area, while developing a range of personal and work-related skills. Relatively few young people study these, in part because they have less status in the eyes of parents and employers than the traditional qualifications in academic subjects. Qualifications that credit competence in 'key skills', that are essential for life and work, also suffer from this lack of status and currency. In particular, they are not valued sufficiently by universities so that parents and young people see little point in studying for them.

In order to develop young peoples' wider competence and prepare them better for life in the community and work, programmes in 'personal and social education' and 'work-related education' have been introduced. However, pupils do not gain qualifications through following these courses and so again they do not have the high status given to other subjects.

Drivers for change

With modernisation, mechanisation and the information society, the number of manual jobs, for example, in coal mining, farming and factories, has decreased rapidly in Wales. Jobs requiring low levels of skill are now rare and companies increasingly use cheaper labour in other countries to carry out such tasks. The demands of the workplace are also now very different, requiring a wide range of skills, for example, in information technology and problem-solving. The workplace also needs adaptability. Knowledge of a particular field, gained in youth, is unlikely to remain useful over a working life.

Developments in technology since the late 20th century have thus changed the jobs market and require people to have a wider range of capabilities and kills. The Wales Assembly Government realises that many more young people must gain such skills if Wales is to be internationally competitive. The education system increasingly needs to provide young people with the knowledge and skills needed in the new types of work available, and also to be able to respond to future change.

It is a matter of national concern that secondary education for large numbers results in failure. This is illustrated by current national statistics for Wales, listed below (Welsh Assembly Government, 2002):

- 25% of 19 year olds have not achieved level 2 qualifications (the basic level needed for employment)
- 10% of our 16-18 year olds are not in education, training or employment
- a further 12% are in employment but not taking up opportunities for further training.

Moreover, evidence from further and higher education, and a national survey of employers, suggests that even those pupils who do well under the current system may not be developing the full range of skills and the ability to apply their learning that they will need for adult life and work, and for further learning (Future Skills Wales, 2003). A recent survey showed that half of all employers who employed school leavers had concerns about the skills they possessed, particularly communication skills (Future Skills Wales, 2003).

To summarise, the curriculum at secondary level remains largely focused on cognitive abilities and on the knowledge and skills required by academic subjects – education for education's sake. Areas of the curriculum that develop the young person's wider skills and competence have less status. There appears to be overall agreement, based on ACCAC's recent curriculum review, that the present curriculum is unsuitable for a large group of pupils. It fails to motivate the least able, but also fails to challenge the most able. We need to place more emphasis on the needs of the learner, in the context of the wider needs of our society and our economy. That means in particular, the development of personal, social and work-related skills.

Within our culture, there need to be nationally recognised qualifications that recognise the competences encompassed by these skills and that are given status by parents and employers, and higher education. ACCAC's

recent consultation has also indicated that schools wish to see qualifications developed that recognise wider achievement, outside formal learning.

Developing broad transferable skills, coupled with systems for assessing and accrediting individuals' skills development, needs to become a central part of the school curriculum if Wales is to develop a workforce that can meet the challenges of the 21st century.

The Welsh Assembly Government has introduced a goal that:
'95% of our young people will be ready for high skilled employment or higher education by 2015' (Welsh Assembly Government, 2002).

What competences do we need to develop?

Basic skills

Basic skills are defined as the ability to read, write, and speak in English or Welsh, and to use mathematics at a level necessary to function at work and in society. The Basic Skills Agency considers that about 800,000 people in Wales, out of a population of 2.5 million, need higher levels of competence in aspects of literacy and numeracy (The Basic Skills Agency, 2004).

Key skills

These are higher-level transferable skills. They are the skills that are considered vital for success in a range of activities in education and training, work and life.
They are grouped as six 'key skills' (ACCAC, 2004).
The six key skills are:

- communication
- application of number
- information and communication technology
- working with others
- improving own learning and performance, and
- problem-solving.

National specifications describe attainment in these six key skills at a number of levels within our National Qualifications Framework. The specifications require the skills to be applied in contexts that are new and may be unfamiliar to the candidate. Assessment is by portfolio of evidence collected by the learner.

The competences within these key skills have become accepted nationally, in principle, as vital for young peoples' progression into further education, into the community and the workplace. However, although the competences that they include are regarded as important for a range of occupations, these key skills qualifications do not have the status or recognition – with schools, students, parents, higher education and even with employers. Academic qualifications in traditional subjects, such as those in English, mathematics and science, have much more currency and status.

Other work-related skills

Surveys of business and industry have also reported the need to improve abilities in other skill areas. The ones that feature most commonly are: ability to follow instructions, adaptability, leadership skills, showing initiative, and also skills and attitudes linked to enterprise and entrepreneurship (Future Skills Wales, 2003).

There are also calls for ways of recognising personal attributes, such as attitudes and values. These are developed within personal and social education classes in schools, but also by a range of other school activities (Future Skills Wales, 2003). Such attributes are not easy to assess. They do not lend themselves to assessment by written examination. Indeed, an attempt to do so might again skew the experiences provided, and the broad aim of developing the learner's personal capabilities might be lost.

As we in Wales respond to the changes in society and work, ways of increasing the emphasis on the competences described above are central to our current work on the curriculum.

Two issues are central to our current development work:

- altering the balance between skills and knowledge within the curriculum
- recognising young people's achievements in relation to skills within this wider curriculum.

Constraints and challenges ahead

Schools in Wales have seen many changes in recent years and there is a reluctance to engage with further change unless it really will address the needs of those young people that are being failed by the present system. At 14-19, the message we have from schools is: '*Yes, there is need for change but do not tinker, and make sure changes are properly thought through and not rushed in*'.

While schools recognise that change is needed, they wish it be a process of evolution, rather than revolution. They do not wish to see our present subject-based national curriculum swept away and replaced with a totally different model. They see the change to a curriculum based on skills/competences as something to work towards through the explicit introduction of skills into the present subject-based curriculum in a coherent way across all subjects. They also wish to see nationally recognised qualifications that give credit for such skills.

The process of moving to such a model will need extensive guidance for schools.
Developing skills within a subject-based curriculum also raises the following questions.

How do we place skills in the curriculum?

The school curriculum in Wales is already very full. There is no time available for adding in more requirements. This means that we have to cut down on some of the knowledge requirements in these subjects and take our teachers with us about what is essential to their subject and what can be removed.

We have also to make sure that teachers are equipped to develop such skills in their lessons. Their existing training and experience may not be sufficient.

Moreover, it is important that we make sure that young people can apply the skills, once taught. This means using the skills in different and real contexts. They need to be developed and assessed within the opportunities naturally available in subjects across the curriculum. Thus, for example, English teachers may need to devote more time to teaching communication skills, using more interactive methods that really help pupils to learn (and possibly have to teach rather less literature than they would ideally like). It will also need every other teacher to provide structured opportunities for students to apply their communication skills in the context of different subjects.

This would alter both what teachers teach and how they teach it. Teachers in secondary schools are subject specialists and entered teaching to transfer knowledge and enthusiasm about their subject. They do not relish teaching matters they regard as ‘outside the subject’ and regard themselves as poorly equipped by their training to do so. Placing wider

skills into curriculum subjects will thus require guidance and training for subject teachers.

Changing the academic nature of some subjects, such as English, Welsh, and mathematics, often leads to accusations in the media that demands are being reduced and the subjects being made easier. The aims of the changes will need to be made very clear to society in general, as well as parents and employers.

However, notwithstanding the difficulties, there is overall agreement that the curriculum at 3-19 must be changed to focus better on the needs of young people and develop wider competences. Further work will be necessary to identify and agree on the full range of skills that young people should acquire.

Some of this has already been taken forward for 14-19 education. At this stage, young people make choices that take them along different pathways and, after the age of 16, they may study at school, college or in the work place. A 'learning core' for 14-19 has been developed (Welsh Assembly Government, 2003). It sets minimum requirements for learning, wherever they are studying. It describes the learning that all young people need at 14-19 to prepare them for further learning, employment, personal fulfilment and their contribution to our diverse and bilingual society. It includes key skills, other work–related skills, develops attitudes and values and provides knowledge and experiences that prepare young people for life in society and in work.

How do we assess and recognise achievement in skills?

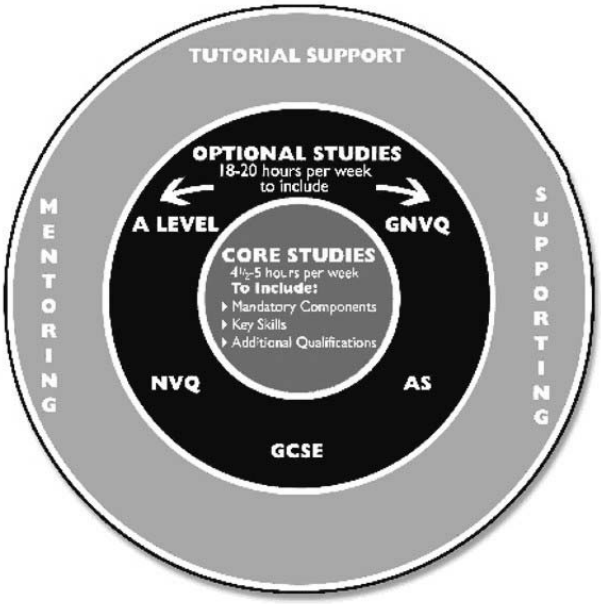
Possible ways of managing the assessment of skills developed across the curriculum are currently being considered. A pupil may develop a particular skill in one subject area. Competence in that key skill, however, should be assessed by whether the pupil can apply the skill in another context or subject area. That is very different from our present system where the same teacher, and/or an external examination body assess what is taught. How could such a system be managed?

There will need to be a substantial training programme, for all teachers, in the requirements and assessment of key skills if such a model is implemented. One possible model, described below, is being piloted with 16-19 year olds.

The Welsh Baccalaureate Qualification

An overarching award is being developed called the Welsh Baccalaureate Qualification (WJEC, 2003). This is currently being piloted, at post-16 only, in a small number of schools and colleges across Wales, although there are plans to extend its use to cover 14-19. The current post-16 curriculum model is illustrated in Figure 1.

Figure 1: The Welsh Baccalaureate Curriculum Framework



At its heart lies a core entitlement with a heavy focus on skills development. Around this, pupils choose optional subjects leading to qualifications that Wales shares with England and Northern Ireland. The rationale for the core is that it should provide exciting learning opportunities for pupils to develop the range of essential skills.

This core consists of:

- study, by individual assignment, of Wales, Europe and the world
- work-related education, including enterprise, work experience and careers education
- personal and social education, including community or voluntary service
- opportunities to develop all six key skills.

This allows pupils to acquire and apply their key skills in contextualised learning situations, principally through the core programme but also through their options. However, they are able to seek support from dedicated skills programmes, where they need it.

Each school and college involved can plan their provision within the core so that it makes use of resources and links with the local community. Students build up a portfolio of their activities and achievements as they undertake community, voluntary, and work-related activities. The assessment of each student's achievements in the core is through the six key skills qualifications that are nationally recognised. Students must achieve a minimum number of key skills to be awarded the qualification.

The body that manages entry into higher education has assessed the demands of the core. It was awarded points that make it equivalent in 'points value' to the top grade of the qualification that is normally used within entry requirements.

Early indications from schools and colleges piloting this qualification indicate that it is going well. It has given those schools a coherent programme for their post-16 students in which all activities, including those outside formal learning, can count towards their final qualification. It may of course be that these pilot schools and colleges are not typical and have qualities of management and enthusiasm for change that others do not possess. However, if the pilot is successful, the qualification may be made available to all schools and colleges from 2007 onwards. Its wider use will show whether such a model can be successfully implemented across Wales.

Conclusion

The challenges in curriculum development that we face in Wales are common, and are being addressed, across Europe and other parts of the world. The solutions in Wales will have to fit into the circumstances in which it find itself - as a small country with close links to its partners within the UK. Nonetheless, it is hoped that this description of our work on developing personal competence within the curriculum may contribute to the wider European debate.

Annex 1: The school curriculum for compulsory education in Wales

Key Stage 1 Ages 5-7	Key Stage 2 Age 7-11	Key Stage 3 Age 11-14	Key Stage 4 Age 14-16
Statutory national curriculum subjects			
English*	English	English	English
Welsh ▲	Welsh ▲	Welsh ▲	Welsh ▲
Mathematics	Mathematics	Mathematics	Mathematics
Science	Science	Science	Science (Double) or Science (Single)
Design and technology	Design and technology	Design and technology	
Information technology	Information technology	Information technology	
History	History	History	
Geography	Geography	Geography	
		Modern Foreign Languages	
Art	Art	Art	
Music	Music	Music	
Physical Education	Physical Education	Physical Education	Physical Education
Other statutory requirements			
Religious Education	Religious Education	Religious Education	Religious Education•
Sex education°	Sex education°	Sex education	Sex education
		Careers Education and Guidance+	Careers Education and Guidance+
Personal and Social Education	Personal and Social Education	Personal and Social Education	Personal and Social Education (for all KS from September 2003)
			Work-Related Education (from September 2004)

* Indicates there is no statutory requirement in Welsh-speaking schools
▲ Refers to the models for Welsh and Welsh second language
• Religious Education is also compulsory for all post-16 pupils in school
° Primary schools in Wales are required to have a policy on sex education
\+ Careers Education and Guidance is compulsory for all 13 to 19 year olds in school/college

Annex 2: The curriculum and assessment framework for ages 3 to 16

Age of pupil		Curriculum framework	Statutory assessment framework	School year
3	NATIONAL CURRICULUM and RE	Desirable Outcomes		
4				
5			BASELINE ASSESSMENT (within 7 weeks of starting school in YR or Y1)	R
6		Key Stage 1		1
7			STATUTORY ASSESSMENT Teacher assessment in core subjects	2
8		Key Stage 2		3
9				4
10				5
11			STATUTORY ASSESSMENT Teacher assessment and tasks/tests in core subjects	6
12		Key Stage 3		7
13				8
14			STATUTORY ASSESSMENT Teacher assessment and tasks/ tests in core subjects; teacher assessment in non-core subjects	9
15		Key Stage 4	QUALIFICATIONS: e.g. GCSEs/GCSEs in vocational subjects/entry level certificates	10
16				11

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A triad of competencies in general education at the secondary level in Austria

Erich Svecnik

Summary

New challenges in a modern society make it necessary to adapt curricula periodically. The latest curricula for lower secondary education in Austria were not only adapted but also re-conceptualised. In a broad discussion process involving all stakeholders of the education system that lasted for several years the new curricula were formulated beginning from the objectives to be reached at the end of lower secondary rather than on a traditional rolling basis. Instead of listing contents the new curricula build on the triad of competencies consisting of subject-matter competence, self-competence and social competence that students are to acquire during the 4 years of lower secondary education. This new concept is supplemented with reducing core content down to two thirds of teaching time reserving room for add-on contents tailored to the specific situation of a particular school in the remaining third.

Background

The challenges facing the educational systems of modern, industrialized societies in recent years have made it necessary to rethink the old ways of knowledge transmission and teaching. The underlying reasons are manifold and interrelated, in that they are contingent upon, or resultant from, one another.

- The transformation into an information society has been completed in principle, but in terms of quality the details are still subject to evolution and change. Given the exploding quantity of information and its simultaneous availability in different media, it is not only important what we learn, but increasingly how we deal with and manage this information. Unlimited access to written and audiovisual information (via the Internet, data bases and other media) is an advantage for those who have developed their own, efficient methods of searching and are familiar with the process of selecting, weighing and assessing information. This also includes communication through different channels as a vital tool for the acquisition and sharing of

knowledge and presupposes an appropriate and competent use of available means and technologies of communication. The rate of participation in education after the age of compulsory schooling, which in Austria has risen from approximately 80% some 25 years ago to 98% today, is further evidence that we have turned into an information society (Industriellenvereinigung, 1997).

- In modern industrialized societies, the mobility of capital is virtually unlimited, and labour is available on a global scale. Transnational corporations emerge and expand worldwide in a quest for low-cost production sites. Global networking and the relative ease of exchanging information encourage these trends. Globalisation and its characteristic features have made education and qualifications an indispensable asset for business locations, and determinant factors for the quality of life of the individual in society. The system of education will be faced with new challenges for shaping a society in which individuals may develop freely whilst ensuring their standard of living and leading a satisfying life.

- As society is undergoing fast-paced transformation, the world we live in is becoming ever more complex. This transformation is accompanied by the dwindling weight of traditional socio-cultural and religious authorities to which people turned for guidance. In modern, complex societies, individuals must make more and more decisions autonomously and self-reliantly in their daily lives. Multiple options and opportunities in a dynamic and complex environment, combined with a loss of binding values and standards, have prompted the educational system to respond, so as to include all individuals and give them the competencies they need.

These trends have shifted the demands on the educational system towards a new quality of education that covers material, personal and social dimensions. Overburdening the educational system with new tasks and requirements will inevitably hamper this process. Moreover, it is impossible to forecast the demands individuals will have to meet in work and life in the wake of modern-day developments. School education therefore needs to redefine its current mission of endowing young people with the knowledge and skills they will need in the future and shift its focus towards enabling pupils to cope with challenges and find solutions of their own. Knowledge and skills are being replaced by the notion of action competence.

In Austria, with its centralised system of education, curricula are essential steering instruments. They provide a frame of reference for teaching, identify tried and tested innovations as desired practice, affect teachers in their classroom activities and, on a corollary basis, the school administration, e.g. through the approval of text books, adoption of examination requirements and, notably, allocation of resources (Künzli, 1999). As the final authority, the state determines the contents to be taught in the different years and subjects. Whenever, in the past, there was a consensus that new contents had become socially relevant and accepted well enough to make them significant for education, they were included as mandatory in the curricula. This add-on mechanism would generate extensive lists of subject-matters to be covered in each individual school year. It made curricula difficult to understand and overtaxed teachers who, as a consequence, failed to consider them seriously. Teachers rated the curricula as impractical for teaching purposes (Tillmann, 1997). The curricula had de facto become invalid for an effective management of the teaching process. They were replaced by textbooks, which are reviewed by a body of experts, approved as valid interpretations of the curriculum, and considered of greater use for practical teaching purposes.

A growing number of school experiments which were to make up for gaps and shortcomings in the existing curricula and related legal provisions indicated that the cumbersome mechanism of curricular adjustment was obviously no longer able to cope with the challenges in education. The problems surrounding the curricula in the mid-1990s eventually gave rise to a new approach to curricular design and development.

The competence model in general education at lower secondary level

New approaches to curricular development

Without using the inflationary term 'change of paradigm', one can aptly state that the development of a new curriculum for lower secondary level embarked on new vistas. In addition to an updating of curricular contents, priorities were entirely redefined compared with earlier curricular reforms against the backdrop of the trends and developments outlined above. Let us first look at how these new curricula, harbouring such vast innovative potential, came about.

In the past, the 'life cycle' of a curriculum was approximately ten years. After that, obsolete parts had to be discarded, modern-day contents added and current pedagogical findings integrated. When developing the current curricula for lower secondary level, the previous curricula were not only adapted, but also re-conceptualised in the mid-1990s. This process was preceded by a survey in which all stakeholders directly or indirectly involved in school education, such as teachers, parents, the school administration, as well as educationalists, were asked for ideas, concerns and input for a new curriculum for lower secondary level. From the very outset, the development process was not geared to revising existing curricula but to collecting new ideas. The findings were then pooled and submitted to a large number of socially relevant institutions and interest groups for comment. The school administration, the social partners, the churches, teacher training institutions and many others were involved at this stage. One may rightly assume that broad social consensus had been achieved on the fundamental orientations of the new curricula. Based on the outcome of this consultation process, preparations were begun for the design of the curricula, which were considered groundbreaking at the time. Traditionally, the curricula had been drafted on a rolling basis, e.g. taking the contents of the feeder schools as a basis for the first year, building on the first-year contents for the second, etc. For the design of the new curricula, the knowledge and skills pupils should have mastered by the end of lower secondary level were defined first. The objectives for the different subject-matter curricula were formulated for the end of year eight. At that point it was still open whether objectives needed to be formulated later on for the individual years as well. Some believed that a formulation of objectives for each and every year would compromise the innovative character of the new curricula and revert to the trodden paths of traditional curricular development. Others demanded that objectives should be formulated for two consecutive years. Eventually, it was decided to define the steps and the levels of competence pupils should attain to reach the objectives at the end of the secondary cycle for each individual year and to grant schools the latitude needed to set individual priorities within the scope of school-based autonomy.

In 1996, the Austrian Federal Ministry for Education published a white book that presented the overall concept for the new curricula for lower secondary level to a wide public (BMUK, 1996). It was a milestone in the preparation of the new curricula and introduced the motto of 'schools make their own curricula' that was to take on considerable relevance later in the process. By then at the latest, activities had become

decentralised, involving pilot schools and working groups of teachers. The process was coordinated by an all-national steering group consisting of representatives of the province school boards, parental associations, teacher training institutions and educationists. The feedback received from the pilot schools on development work and tests was systematically recorded and analysed by the Centre for School Development (Stanzel-Tischler & Grogger, 1998). Once the drafts had been reviewed, the development of auxiliary materials was begun. In-service further education events were held parallel to the legal fine-tuning and consultation procedures. In 2000 finally, the general parts of the new curricula entered into force after promulgation in the Federal Law Gazette (BGBl. II Nr. 133/2000; BGBl. II Nr. 134/2000)[1] with immediate effect. The subject curricula took effect on a rolling basis.

In summary, the five-year process of creating the curricula was in itself innovative for the national context on several counts: the curricula were developed from scratch, based on objectives which had been formulated for the end of lower secondary level. Relevant social groupings were involved from the outset, which inspired a wide debate. In a centrally oriented school system, most development activities then unfolded at a decentralised level. Ultimately, the guiding principles of curricular development have always been trust in the professional expertise and pedagogical skills of teachers.

A triad of competencies

Breaking with the past, the new curricula for lower secondary level did not evolve from a revision of earlier texts, but started from scratch, without adding, streamlining or condensing existing compilations of contents. The curricular design process started with the formulation of objectives, laying down what leavers of the different school types should have achieved by the end of lower secondary level. The emphasis was on

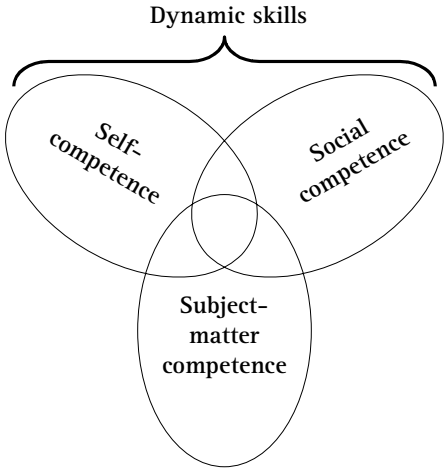
[1] As a particular feature of the Austrian system of education, a tiered system of schooling at lower secondary level exists, with a secondary general school and an academic secondary school, but identical subject curricula for both school types. Academic secondary school and secondary general school differ in their mandates (providing basic general education and transfer to intermediate and higher-level secondary schools, versus providing a comprehensive and in-depth general education and taking pupils to the university entrance examination), and organizational set-ups (setting at secondary general schools, streaming at secondary academic schools). The described curricula, which are identical in wording, hence apply to all Austrian pupils aged 10 to 14 years, except those who are being taught according to the curriculum for special school.

a re-orientation of learners. While knowledge has to be acquired, critically analysed, owned, transferred, developed and retained, it is no longer sufficient to simply recall accumulated knowledge; learners must be able to produce and generate knowledge autonomously. The new curricula for lower secondary level take account of these developments. They no longer list contents that need to be covered in each individual school year or by the end of lower secondary level. Common until the early 1990s, such compilations of contents were felt to be out of touch with modern-day needs. The new curricula are now founded on the notion of competencies. Accordingly, it became necessary to also revise the prescriptive character of the curriculum. Past curricula had constituted a general frame that set out maximum teaching contents from which teachers could choose, following the principle of learning by example. Often, however, teachers would not consciously select content that would encourage learning by example, but use the approved textbooks as a basis for planning classroom activities. This principle has been abandoned in the new curricula. The new curricula are clear about the objectives pupils need to reach by the end of a given stage of education. They are highly prescriptive when it comes to defining the key competencies that form the core content, whilst leaving individual schools a wide room to manoeuvre within their scope of autonomy to deal with the add-on contents.

Importantly, the objectives spelled out in the curricula include the ability to use acquired knowledge, i.e. action competence. According to a common and widely accepted definition, competencies are learned, demand-specific cognitive abilities including the corresponding meta-competencies and motivational attitudes (Weinert, 2001). Young people are to be empowered, using the competencies acquired in the course of school education, to assert themselves in all walks of life, not only at the workplace by strengthening their competitiveness on the labour market, but also in shaping for themselves a meaningful and successful private life and becoming an active member of society. The curricula delineate three areas in which schools are to contribute to educating young people: knowledge acquisition, competence development, and conveyance of values. Evidently, knowledge and values remain important, but are embedded in the development of competencies, enabling individuals to take on greater responsibility for running their lives and participating in society. The competencies developed at school are to empower young people to reflect on how they shape their lives and influence social change. Self-reliance is a fundamental notion in this concept, as young people are increasingly forced to decide for themselves on their

educational careers, given the absence of clear future scenarios, and the impossibility to define clear-cut requirements (Dobart, 2000).

Figure 1: The triad of competencies in the curriculum for the lower secondary level

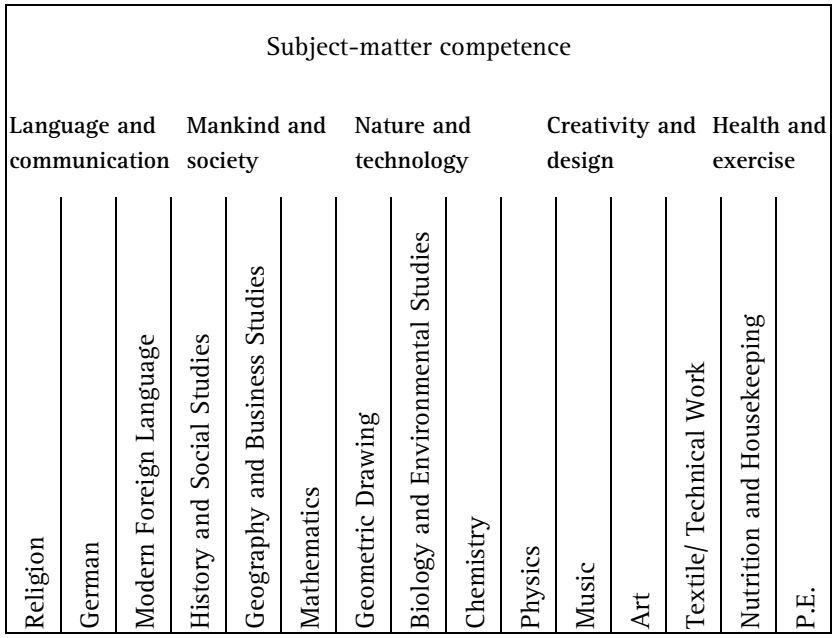


As part of their skill-building function, schools have always been responsible for developing and enhancing subject-matter competencies. To become effective, subject-matter competencies increasingly require cross-curricular competencies. In the light of existing complexities and the unpredictability of future needs, the concept of dynamic skills was taken on board in the curriculum for lower secondary level. Dynamic skills are person-related competencies that are not tied to a given subject and are designed to qualify pupils to participate more actively in shaping all walks of life. Dynamic skills are to prepare pupils for situations in which a mastery of stored knowledge and acquired experience is no longer sufficient, but where solutions need to be developed in a given context. Two major components make up the dynamic skills in the curriculum model of lower secondary level: self-competence and social competence. Together with subject-matter competence, they form a triad of competencies.

Subject-matter competence

Subject-matter competence is the result of independent, active appropriation of knowledge and its critical and reflective study. It is developed in the different subjects that in themselves are to contribute to the five fields of education: language and communication, mankind and society, nature and technology, creativity and design, and health and exercise. The new curricula have not done away with the traditional catalogue of subjects, but create a joint responsibility of all subjects for competence development for all fields of education. This is to promote the development of cross-curricular competencies among pupils, as well as interdisciplinary and multi-disciplinary instruction.

Figure 2: The concept of subject-matter competence in the curriculum for the lower secondary level (BGBl. II Nr. 133/2000; BGBl. II Nr. 134/2000)



The subject curricula first define the educational and teaching objectives. This definition describes the subject-matter competence to be conveyed during lower secondary level in a given subject. It does not list contents, but defines which content-related competencies pupils should acquire during the four years of lower secondary level in general and abstract terms. For the purposes of illustration, let us take a closer look at mathematics:

Figure 3: Objectives formulated in the curricula for the lower secondary level, using the example of mathematics (BGBl. II Nr. 133/2000; BGBl. II Nr. 134/2000)

Pupils should be able to

- associate actions and notions in the different areas of mathematics with a variety of different conceptions and ideas, and, in doing so, experience mathematics as a highly interconnected field of action;
- use mathematical know-how and skills from different fields of their accumulated experience and knowledge and develop these further by using information sources. Forming mathematical models and understanding their limits is to enable pupils to deal responsibly with statements arrived at by mathematical methods;
- understand how matters interrelate and form notions by reflecting on mathematical action and knowledge;
- engage in productive intellectual activity, reasoning and accurate work, critical thinking, presentation and interpretation as basic mathematical functions in pursuing the relevant educational objectives, whilst being led to designing learning processes independently;
- plan solutions and approaches to assignments and problems using appropriate work methods, learning strategies and heuristic procedures, and to test them by implementation;
- use different technologies (e.g. computers).

The curriculum outlines how the different subjects contribute to the five fields of education. As all subjects contribute to all five fields of education, the different subjects and fields of education will, naturally, overlap to varying degrees. Mathematics, for instance, contributes to language and communication as follows: *'Describing objects and processes; accuracy in expression; use and meaning of definitions; classification processes; translating texts into mathematical action; condensing facts into mathematical formulas; converting formulas into verbal statements; conveyance and use of an LSP using specific grammatical structures.'* (BGBl. II Nr. 133/2000; BGBl. II Nr. 134/2000) The curriculum then offers suggestions for classroom teaching, most of which relate to the use of cooperative forms of teaching and learning, establishing cross-links to other subjects, individualisation and differentiation, as well as performance assessment and evaluation. Finally, it spells out which level of competence should be developed in each of the four years. As this part does not specify any contents, the list of partial competencies to be acquired in each year and subject does not even fill half a page each. The overwhelming wealth of details, a major

downside of the old curricula, which was difficult to grasp and therefore largely ignored by teachers, has now been done away with. This radical streamlining, combined with a description of core contents only, reflects the trust that was placed in the professional expertise and pedagogical skills of teachers. Core contents make up two thirds of teaching time. The remaining third is reserved for add-on contents tailored to the specific situation of a particular school. Within the scope of their autonomy, schools may re-allocate teaching units between the different subjects. The core contents, however, should not be affected.

Self-competence

Promoting self-competence is key to preparing pupils in a holistic approach for their further educational careers and lives, and to enable and facilitate the acquisition of subject-matter competence. Self-competence includes the development of individual talents and potentials, understanding personal strengths and weaknesses, and a permanent disposition to see and test oneself in new situations. It is the foundation for a learning process that is controlled and directed by the pupils themselves. Self-competence is not only a means to an end (initiating a lifelong learning process), but is vital for developing the personalities of young people. An analysis of the curricular content reveals a wealth of references to self-competence (Svecnik, 2001). Explicit mention is made of independence, self-awareness, creativity, a readiness and ability for innovation, flexibility, critical and integrated thinking, but also emotional development. The curriculum does not list these areas as isolated requirements, but fits them into the subject-matter competencies, together with references for teachers on those areas in which special support appears particularly useful.

Figure 4: Elements of self-competence (Svecnik, 2001)

Self-competence:

- recognizing individual strengths and weaknesses
- dealing with existing knowledge critically
- networked, integrated thinking
- acting self-organised and creatively
- becoming aware of one's own abilities
- organising learning processes autonomously, etc.

Social competence

Going beyond the individual, the third competence allows adequate interaction with human beings, both at the micro-level in interpersonal encounters in different settings, and at the macro-level, as an active and participating member of society. When formulating key competences for all citizens of the European Union, the expert group of the European Commission also used this two-dimensional definition of social competence (Working Group 'Basic Skills, Foreign Languages Teaching and Entrepreneurship', 2003). As defined in the Austrian curricula for lower secondary level, social competence implies the ability and readiness to accept responsibility, cooperate with others, develop initiative and participate in shaping social life. At several points in the curricula, we find more specific guidance on how to interpret this notion. They speak, for example, of teamwork, conflict management, a sense of dialogue, developing and strengthening the ability to bond, solidarity and tolerance. At the macro-level, social competence is specified as an understanding for social interactions, responsibility vis-à-vis society, a critical political awareness, justice and humanity as guiding values, and responsible handling of the natural environment. Social competence covers basic interactive and communicative elements, insights into social and societal structures, as well as a normative and ethical dimension (Svecnik, 2001). Clearly, this model shows that the notion of competencies does not only combine knowledge, abilities and skills, but integrates – most fundamentally – motivation and values.

Figure 5: Elements of social competence (Svecnik, 2001)

Social competence:

- ability to communicate
- ability to work in teams
- conflict identification and management
- ability to adjust
- empathy
- ability for interpersonal contact
- social responsibility, etc.

The triad of competencies as key competencies

The curricula for lower secondary level do not speak of 'key competencies' at all. Key competencies have however become a leading notion in the current educational debate (Svecnik, 2003). In the following, it is set out to explain briefly how the triad of competencies in the Austrian curricula relates to the notion of key competencies.

International literature on this issue ascribes two major attributes to key competencies: universality and transversality/multifunctionality (Rychen & Salganik, 2001). For universality, potential key competencies must be eminently relevant for each and every individual, not only for sub-groups of society. As life skills, literacy and numeracy are a case in point meeting these criteria. It is difficult to imagine that an illiterate person would be able to successfully participate in a modern society such as Europe. Looking at the triad of competencies from this perspective, individuals who do not have acquired basic subject-matter competence, self-competence and social competence, clearly will be unable to assert themselves fully, or at all, given the complexities of modern, western societies. This argument is backed by the fact that these three competencies form the core contents of the curricula that de facto apply to all pupils aged 10 to 14, who are in compulsory schooling[2].

For transversality, key competencies must be relevant in different contexts and life settings. Broadly, they can be categorized as working life (employability), running a personally satisfying private and family life, and ultimately, active participation in society. Specialist competencies, which unfold in one area only (such as the technical competence of an engineer), do not qualify as key competencies. Conceptually, the triad of competencies in the Austrian curricula are cross-curricular competencies spanning different areas of life. Being curricula for general academic schools at compulsory schooling level, specialisation would be unacceptable on formal grounds, at least for the core contents. The triad of competencies clearly meets the second criterion as well.

Summarizing, it can be argued that the competencies conceptualised in the Austrian curricula for lower secondary level qualify as key competencies, even though this specific term is not used in the relevant documents and legal provisions. Given their relatively high degree of abstraction, and by analogy to the use of the term in the OECD project *DeSeCo* (Definition and Selection of Competencies), these competencies can be referred to as generic key competencies (Rychen & Salganik, 2001). Laid out in general terms in the curricula, their constituent elements, interrelations, and the way they relate to the different subjects of instruction, need to be specified in greater detail to be effective and useful in practice.

[2] Except for those few pupils who are taught after the curriculum for special school.

Measures supporting competence development

In their broad terms, the curricula provide guidance on instruction that is to equip pupils in the best possible manner for the challenges of today and of tomorrow. And yet, the mere existence of curricula that prescribe the transmission of competencies is not enough. In order to implement and actually achieve these objectives, it is imperative to take action. As one of their guiding principles, curricula in Austria trust in the professionalism of teachers. Moreover, the teaching profession enjoys wide-ranging latitude in designing classroom work. However, past experience has amply shown that the best of intentions may fail at implementation in the absence of supporting measures and guidance. Appropriate forms of learning as well as encouraging learning processes are what is needed to develop pupils' dynamic skills. It is equally important to manage a trade-off between granting teachers the freedom and leeway they need to implement their own ideas, and offering them support through didactic and methodological guidance. In the curricula, a middle-of-the-road approach was adopted. Whilst prescribing a plurality of methods and the use of different didactic principles, they leave the details of implementation to the teachers. Didactic references are found both in the general parts of the curricula, and – tailored to the subject-specific needs- in the subject-matter curricula. The following section outlines some elements of planning and designing classroom instruction, which are conducive to competence development in pupils.

Cross-curricular approach

Competence-driven curricula do not supersede the traditional catalogue of subjects. The definition of five fields of education to which all subjects are supposed to contribute embraces the overarching notion of cross-curricular competencies. The principles of language and communication, humankind and society, nature and technology, creativity and design, as well as health and exercise, do not simply regroup the subjects of instruction, but lay down in detail what is a comprehensive general education. The principles deliberately do not use the names of subjects to avoid the impression of subjects being 'assigned' to them. To visualize the integrated approach to the conveyance of general education, all subjects refer to the fields of education in their educational and teaching objectives. This multi-disciplinary interplay of specialist subject matters beyond the stipulated contents results in a closer convergence of school and real-life settings and promotes the development of action competencies in pupils.

Core and add-on contents

The definition of core and add-on contents resulted in schools enjoying greater leeway in planning and designing educational processes on site. At the same time, mandatory performance targets have been laid down. They are to ensure the horizontal and vertical permeability of the Austrian system of education. Two thirds of classroom time is to be devoted to core contents. The remaining third may be designed at the level of the individual school, by teachers individually, or by teams of teachers in an interdisciplinary approach, in line with regional or local needs. How the add-on contents are designed will depend, apart from the educational and teaching objectives in a given subject, on the needs, interests and talents of pupils, and on the individual priorities of teachers. Ideally, the add-on contents for the individual subjects should be dovetailed and embedded in a school programme. The division between core and add-on contents generates a new balance between state-imposed requirements and locally driven needs. It goes hand in hand with a strengthening of teacher teams at the schools and a sizable degree of autonomy for teachers. Here, the curricula are explicit when it comes to subject-matter competence. In times of a growing pluralisation of society and individualisation of life settings, schools should also focus on the social dimension when fleshing out their individual programmes (Dobart, 1997).

Pupil-orientation

Pupils have different abilities, talents and interests. As a key principle, curricula build on the educational background, accumulated experience and interests of pupils without prejudice to the general scientific orientation of the subject curricula. Far from making a case for arbitrary approaches, the author believes that school will continue to be responsible for systematically developing and conveying knowledge to pupils. However, pupils should be able to contribute their own interests to the learning process as school becomes increasingly geared to life realities. Measures such as individualisation and differentiation should seek to foster and challenge all pupils in line with their needs. This includes the provision of differentiated learning programmes, respecting individually required work times and different types of learning, creating awareness for pupils' strengths and weaknesses, and the development of feedback mechanisms on whether pupils are developing their performance potentials in the best possible manner.

In this context, it is all-important to use a variety of different methods in the design of teaching, such as individual work, partner work, and

different forms of group work, as well as open learning phases and elective options for pupils. In addition to acquiring subject-matter competence in the different subjects, pupils should find an opportunity to develop independence and self-reliance for their learning processes as major elements of self-competence, guided and assisted by teachers, and to practice core elements of social competence, especially in cooperative learning and work phases.

In the Austrian system of education, classroom teachers have responsibility for performance assessment and evaluation. The curricula prescribe an overall system of performance assessment for teachers on a mandatory basis, which must be transparent for parents and pupils. These clearly defined and known evaluation criteria are designed as a yardstick for self-assessment and positively affect pupils' motivation, stamina and self-confidence. Pupils are to be involved more actively in the planning, design, monitoring and analysis of their work processes and outcomes, so that they can gradually take on responsibility for developing their own competencies.

Internet-based support for implementation

An Internet-platform was set up for teachers to complement the standard further training events on the new curricula (http://www.gemeinsamlernen.at). This platform is to provide hands-on assistance, the underlying idea being that teachers should provide mutual, high-quality assistance in the design of classroom work by making teaching sequences available together with all information that is required. A clear description of the sequence, teaching and learning aids, as well as notes on performance assessment can be retrieved from the database. The quality of the teaching sequences is assured by technical comments by experts from the fields of initial and in-service teacher training and didactics. The website is hosted and funded by the responsible ministry, which also offers financial rewards for teachers who have documented promising or successful teaching sequences in writing and make them available to their colleagues together with all the material they need.

Continuation at secondary higher academic schools

The development of curricula for lower secondary level was a trailblazing project for the Austrian system of education. They entered into force as of the school year 2000/01 on a rolling basis, so that the first pupils taught after the new curricula will have completed lower secondary level

in the school year 2003/04 and transfer to upper secondary level. After 4 years of being taught in an innovative, competence-oriented system, reverting to the traditional curricula for the remainder of their school life would have constituted a step backward. It was therefore decided at an early point to develop new curricula for the upper cycle of secondary higher academic schools, which consistently follow up on the competence-orientation of the curricula for the secondary lower level. The triad of subject-matter competence, self-competence and social competence was retained and extended in keeping with the mandate of preparing pupils for the university entrance examination. Special emphasis was put on a number of elements that are particularly relevant for higher education. The curricula for the secondary higher level are to promote independence and self-reliance in the acquisition of knowledge and competencies in particular. The subject curricula offer an extended range of possibilities and encouragement to complete individual assignments relying on different resources (IT, school library, inclusion of extra-mural components). Moreover, a teamwork option has been introduced with a view to promoting social competence and familiarisation with work-sharing methods, which will also count for performance assessment. Having post-secondary training routes and the preparation of R&D papers at the end of the secondary higher cycle in mind, the curricular contents are formulated in a way that allows the conveyance and use of scientific methods of work. The subject curricula have taken account of the growing use of modern technologies (ICT, Internet, modern media etc.) as a prerequisite for attaining content-related objectives. The curriculum for the secondary higher level focuses not only on contents, but also on the presentation skills of pupils as an element of the communicative process. Pupils are to convey the results of their own independent work in presentations that are to the point and appealing.

Conclusion

New challenges such as the emergence of information society, globalisation, or the growing complexity of our living environment, have prompted the educational system to act. Innovative, competence-oriented curricula attempt to respond in a key area, that of academic schools at lower secondary level. The focus no longer lies on a compilation of content, set out in framework curricula, but on a triad of subject-matter competence, self-competence and social competence. Innovative approaches were embraced for curricular contents and for the process of curricular development through a high degree of decentralisation in a

centralised system of education. Educational academia has cautiously applauded the aspirations of the new curricula, not without criticizing that too many concessions had to be made in the political process preceding their prescription. Constrained by the need to secure a broad-based consensus among the various political and educational stakeholders, not all of the advancements that had been promised could be kept. It is, however, undisputed that the new curricula are a step in the right direction. A final answer can only be expected from an evaluation of their impact (Thonhauser, 2000).

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Competence-directed orientations in the Netherlands

Joost Klep, Toon van Haperen

Summary

In a former contribution 'Competence: a perspectivistic notion', we concluded that the concept of competence is rather fuzzy. The concept seems to offer an alternative for the usual thinking in terms of subject areas and cross-curricular objectives. Competence seems to express how a student/pupil should develop during primary, secondary or vocational education. In each of these stages of education different interests are important. In primary education in the Netherlands we can distinguish more pedagogical aspects than in other levels of education, in vocational training we can find more competences that are important for being successful in the labour market.
In this contribution we present a rough overview of how different emphases appear in different forms of education relative to the concept of competence. Consecutively primary education, secondary education and vocational education are addressed.

Finally we conclude that description of competence needs an unconventional description method: a multi-perspective approach in which pedagogical objectives, and objectives belonging to the usual subject areas are connected. In the Netherlands this kind of description has been initiated, but a lot of work still needs to be done.

Competence-directed orientations in primary education

Education is directed at culture transfer, personal development and social equipment (Letschert, 2004). Depending on the education sector and the social sector these three orientations in educational aims will be fleshed out with different accents. Depending on these accents, the development of children achieved by education and training, should result in pupils who are competent as regards society, the own person, personal functioning in society in the future.
'Being competent' cannot be divided up into sub-competences in each of these three, because personal development is closely related to the

perception the child has formed of itself and the environment it lives in. In return this environment influences the perceptions the child is forming. This means that cultural and personal development and equipment continuously influence one another. The three orientations in education mentioned above are more an indication of the situations in which a pupil should be competent, than an expression of aspects of these competences themselves.
In basic education in the Netherlands the education of children is expressed in different ways. 'Competence' is a relatively new term, which takes personal functioning and well-being as the base of thinking.
In this sense competence is slightly contrary to the classical objectives in terms of knowledge and skills based on the common subject canon. Nevertheless, also in existing and older descriptions of objectives various references to competence can be found.
Basic education has to do with dynamics in culture, visions on the person and with society and its rapidly changing professional perspective. These dynamics make it less easy to come to a description of 'the' situations in which pupils should be competent. It rather seems that in current education a patchwork is made of small sections in which children can develop themselves, hoping that they can constitute their lives in a fairly competent way. In this respect schools in basic education show considerable differences.
For this paragraph these considerations mean that the advancement of 'competence' is expressed in education in different ways. In the following three paragraphs we will depict elements of basic education in the Netherlands, that contribute to the competence of pupils. We will follow the three aspects mentioned at the start of this paragraph: culture transfer, personal development and social equipment.

Culture transfer

Culture is meant here in the broad sense. It encompasses for example language, the various aspects of social life, science, art and religion. In normal life culture transfer usually happens implicitly. In education culture transfer is distinctively expressed. The objective of education is that children will suitably fit into society (enculturation), in micro-societies such as family, relatives, class, school and neighbourhood, as well as in the macro-society of town and nation. Competence in these contexts means for example that children 'behave', 'suitably take part in family life and life with relatives', 'can take part in school life (pupilship)', 'safely take part in traffic', 'are able to express themselves suitably', 'are able to relate suitably to norms and values of the (sub) communities they are part of', and 'are able to lead their lives suitably

and provide for the necessary conditions'. This competence has been formulated starting from the perspective of society, that is aimed at the continued existence of this society.
Early childhood and pre-school education (2-6 year olds) is explicitly aimed at culture transfer. In the context of the playgroup, day care or day nursery, young children learn to play and eat together, to act correctly in the company of other children and group leaders and to take care of the available materials. The government invests intensely in early childhood and pre-school education to further language development of young children to provide them with optimum conditions to take part in society and education.
In primary education (4-12 year olds) and in lower secondary education (12-16 year olds) attention is paid to enculturation in the context of all school subjects. Subject-specific education is increasingly offered in the context of elements from daily life and the social environment of children. In the subject offering a change is underway from a subject-logical structure to a –whenever possible- thematic structure. Understanding is improved by relating to the reality that pupils experience. Motivation is improved by relating to daily occurrences and by clarifying the social relevance of the education offered.
Besides, society requires various matters that are not covered by the traditional subject canon, because they are context-specific. For example: making a telephone call, using specific pictograph language in traffic, computers and the internet, reading time-tables, understanding directions for use of various products, taking part in sport, taking part in cultural activities (cultural centre), showing suitable consumer behaviour, developing self-management and self-competence. Thematic education provides a good opportunity to deal with these issues.
Basic education builds bridges to learning moments outside school and to out-of-school moments in the performance of children in society. These bridges contribute to children feeling competent in Dutch society and its culture.
Besides education in the school subjects there is a growing offer of cross-curricular themes (a few hundred) that address societal, social, scientific, political and cultural issues. Some of these cross-curricular themes are initiated by the government (social heritage, bullying and violence at school, Dutch as a second language), others are offered by international organisations (Unesco, Unicef), institutions (museums, health care), social organisations (peace organisations, environmental movements, traffic organisations), companies and sectors (agricultural sector, water companies) or interest groups. Some schools prefer to educate children as

often as possible on the basis of these cross-curricular themes to provide them with a cultural development as broad as possible.

Personal development

The personal development of young children is an important theme in basic education. People who consider education particularly as preparation for the job market will doubt whether education has a pedagogic task. Nevertheless most people involved in basic education are of the opinion that education indeed has a pedagogic task[1].
To be able to develop/to exist children need relationship, competence and autonomy (cf. Deci and Chandler in Stevens, 2002). Children want to take part in social life themselves and develop activities themselves in relation with adults that admire and support them. Jongerius (2003) claims that the pedagogic task involves the *'continuous development of children to competent people. We call children competent if they are able to relate adequately to the world they live in'*. In Jongerius and Beernink (1993) six aspects of competence are distinguished: the cognitive, the social, the emotional, the psycho-motoric, the sensitive and the creative aspect. This description of competence also gives an opening to look at competence in sub-areas. In combination with culture transfer for example, we can talk about 'a competent participant in traffic' or 'a competent artist' and similarly about a competent scientist or public manager. From the perspective of personal development somebody is considered to be competent if he can relate adequately to the area involved. In this sense we can call this domain-specific competence. These domain-specific competences, such as 'solving mathematical problems' can be understood as a melange of the six aspects of competence distinguished by Jongerius. Solving mathematical problems requires creativity and appeals to cognition. Communication about solutions requires social skills. The whole process of solving mathematical problems also requires a certain level of emotional development to be able to have the stamina needed to oppose the pressure of disappointment over mistakes and criticism. Psycho-motoric and sensitivity aspects play a role in the visualisation ability and the fine motor skills are an important pre-requisite for noting down arithmetical and mathematical expressions.

In primary education pedagogically-directed movements can be distinguished, such as Montessori education, Jenaplan education

[1] Cf. Leeuw & Verdonschot, 2003 and Jongerius (Ed.), 2003.

(Peterson schools), Freinet [2], experience-directed education[3], development-directed education[4] and the storyline approach[5]. These approaches are aimed at the development of the whole person and do not think in terms of the subject canon, but start from an integral education offering. In these movements it is quite common to let go of the subject matter year-class system. They often have groups in which two or three age-groups work together.
A commonality in these pedagogically oriented movements is the premise they adopt for education: the development and the interest of children and the topicality of the children's perspective. The pedagogical reasoning is that starting from their personal involvement (their relationship) with the theme children get down to autonomous research and learning within the safe environment of the school and will thus become conceptually competent. In this regard the teacher plays an important role in the stimulation of the pupil and by providing a challenging and 'well-prepared environment' (Montessori education) or an inspiring theme. By his interventions the teacher takes care of culture transfer and equipment of the pupil. However, the starting point remains the intrinsic motivation of the pupil. The different movements for example initially underline the different aspects of competence: Montessori education for example emphasises the cognitive, Jenaplan the socio-emotional and the storyline-approach the creative aspect, but in the end they all arrive at the person's total competence.

In basic education as a whole attention is starting to be paid to the pupils' individual learning route in the school subjects (such as arts education, languages, arithmetic, mathematics) as well as to the subject-specific activities individual pupils develop (such as in mathematics, physics and arts). In concrete this means attention is paid to for example personal arts and language expression of pupils, their communicative skills and their mathematical activity (e.g. Baltussen et al., 1997). In the process of going from doing and knowing to relational understanding pupils need regular moments of reflection: 'What have I done now?' and 'What is important to remember?'. The shift within school subjects from 'teaching knowledge and skills' to 'development of knowledge and skills on the basis of own activity', is increasingly expressed in methods (text books) used in schools in the Netherlands. In the description of the

[2] http://www.freinet.nl and http://www.icem-freinet.info/
[3] http://www.ervaringsgerichtonderwijs.nl
[4] http://www.ogo-academie.nl
[5] http://www.storyline.org, http://www.acskive.dk/storyline/index.htm and www.storyline-scotland.com

objectives more attention is paid to the process behind the products as well (cf. for example Van den Heuvel-Panhuizen, 2001). The teacher, who is responsible for an adequate progress of these learning processes, needs a pedagogic-didactical attitude. On the one hand the teacher should provide safety and encouragement to the pupils and on the other hand encourage the conceptual quality of thinking and performance of the children.

Social equipment

As mentioned before the equipment for future participation in society and more particularly the equipment for a future profession is the third function of education. More and more people change their profession one or more times in their lives. Sometimes this happens on their own initiative, sometimes they are forced by circumstances. Also within the profession the work often changes over the course of time. Nowadays 'éducation permanente' and keeping one's own employability at an optimum are necessary on the current job market. Moreover society changes rapidly and new knowledge and skills are required repeatedly. Well-known examples are: the use of computers and information and communication technology, the increasing mobility, the changes in money transfer, individualisation and democratisation, having demands as to one's own role in work and life situations.
For basic education this means that pupils should be equipped and prepared for growth and future changes. In practice this means that attention should be paid to non-context and non subject-specific knowledge and skills. They are often referred to as 'cross-curricular themes'. These concern skills such as gathering information, communication and problem-solving. Moreover the pupils have to learn to consciously take up their own learning process, as far as the aspects allow this. This concerns for example planning of study activities, reflection on their own learning process and requests for intervision and coaching.
The equipment for social functioning also requires attention for competence in the pedagogical sense. After all, besides sufficient general development and certain basic skills the ability to find your own way in tomorrow's society is very important.

Contradiction between person-directed education and content-directed education?

From the pedagogical perspective the emphasis is placed on the six aspects of personal competence as described in the paragraph on personal

development. In this description no subject content elements can be found, or any socially relevant themes. In schools teachers have their worries about the question whether the conceptual equipment of pupils will appear to be insufficient.
This concern is expressed in the discussion on the meaning of 'competence'. More concretely, the question is whether competences should only be understood pedagogically or is there also a conceptual aspect involved? Is competence a set of possibilities of personal performance or is it a repertoire of knowledge and skills? Jongerius et al. (1993) worked this issue out for the subject arithmetic-mathematics. In their publication it was suggested to describe competence for arithmetic-mathematics from the three perspectives: the pedagogic perspective, including the competence in the six aspects mentioned earlier; the mathematic perspective, in which the mathematic competence is understood as the ability to solve problems and to justify them (gradually); and the everyday perspective (culture transfer and equipment for society and profession), which concerns understanding of a set of important everyday problems and problems that are important with a view to further education. In all three perspectives pupils build a repertoire of knowledge and skills. The advantage of this description method is that the idea of 'mathematical competence' is described fairly clearly. Thus the school can apply these three perspectives to describe:

- the personal equipment pedagogically
- every learning area in terms of the respective (linguistic, mathematic, scientific, artistic) activities
- a set of everyday, culturally and socially relevant situations, in which children have to gain experience.

In this way the three functions of education (culture transfer, development and equipment) can be understood and described in an interrelated description of competence.

Competence: a recursive concept

In and by themes and subject-specific education pupils can gain knowledge and skills. In the themes and subject-specific lessons pupils develop their competence and their knowledge and skills in a specific domain. All the knowledge and skills of a pupil can be considered as his conceptual and skills repertoire.
Earlier we outlined competence as 'the ability to relate adequately to a certain situation'. More repertoire knowledge of a situation, will enable a person to realise his competence –which is the ability to relate to a certain situation- also at a higher level or in more areas.

Also relating adequately to the obtained repertoire knowledge itself can be further developed, for example in the area of learning to learn, getting deeper into subject disciplines or the philosophy of a subject. In this vision competence does not grow linearly or in different dimensions at the same time, but rather like an organism in which limbs and organs differentiate 'ab ovo' (as from conception).

Competence and core objectives of Dutch education

These views on basic education are expressed in the Dutch core objectives for primary education. These objectives increasingly gain the character of a conceptual framework within which schools formulate their own educational offering. In the Netherlands core objectives were formulated for the first time in 1993. This formulation encompassed an elaboration of the subject canon for basic education laid down in the Education Act. Separate core objectives were formulated for primary education (4-12 year olds) and lower secondary education (12-16 year olds). Below we will give some examples of core objectives for primary education.
In 1998 the core objectives contained 'cross-curricular' core objectives for the first time alongside subject-specific core objectives. We quote from the government publication on the core objectives of 1998[6]:

These (cross-curricular) core objectives are not related to separate areas such as language, arithmetic or geography. These core objectives concern generally applicable knowledge, understanding and skills, for example being able to work according to a plan or exploring personal abilities and limits. Naturally, these objectives can be realised within the school subjects.

Cross-curricular core objectives
Article 8 of the Primary Education Act states that education aims at a broad development of pupils. This implies that education should aim at the emotional and intellectual development of pupils, the development of their creativity and the gain of social, cultural and physical skills. All core objectives together should reflect this broad education.
Knowledge and skills in the area of cognitive, cultural and physical development are very suitable for translation into the core objectives of certain learning areas. In addition to these there are also skills of a more general nature for which incorporation in a specific learning area is not useful, because they are related to all learning areas.

[6] See: http://www.minocw.nl/kerndoelen/

For this reason these core objectives have been incorporated as a separate category, entitled 'cross-curricular core objectives'.
Because certain general skills are the basis of specific learning area core objectives, sometimes elements can be found in both types of objectives.
The cross-curricular core objectives are grouped in the following themes:

- *Work attitude: The pupils show an interest in the world around them and they are motivated to explore it*
- *Working according to plan: The pupils can draw up a plan and act accordingly*
- *Use of various learning strategies: The pupils can use various strategies and skills for their learning activities*
- *Self image: learn to deal with their own possibilities and limitations*
- *Social behaviour: The pupils make a positive contribution to a group*
- *New media: The pupils make responsible and purposeful use of means of communication, such as new media.*

It is remarkable that this elaboration of the cross-curricular core objectives disappeared in the revision of 2004. Instead in the preamble to the 'proposal revision core objectives primary education'[7] it is pointed out that primary education advances the broad education of children. In this respect the six aspects of the pedagogic competence notion are mentioned. The minister perceives the core objectives mainly as subject-specific. In the preamble the cross-curricular objectives are called objectives 'that require attention'. Many of the cross-curricular objectives mentioned above have been integrated in the new subject areas. It is also remarkable that beside the core objectives a characteristic of each subject is given. As an illustration we will give the characteristics of arithmetic-mathematics:

In the course of primary education children gain –in the context of meaningful situations to them- gradually familiarity with numbers, measures, forms, structures and the associated relations and calculations. They learn to use 'mathematical language' and become 'mathematically literate' and able to calculate. The mathematical language concerns for example numerical-mathematical and geometrical expressions, formal and informal notation, diagrams, tables, graphs and calculations for the calculator. 'Mathematical literacy' and being able to calculate concerns for example a coherent understanding of numbers, measures, dimensions, a repertoire of ready knowledge, important reference numbers and measures, characteristic examples, applications and routines in drawing,

[7] http://www.minocw.nl/kerndoelen/

measuring and geometry. Geometry concerns thinking in dimensions, describing phenomena in reality and reasoning based on thinking in two or three dimensions.
The subjects children derive their 'mathematical literacy' from have different origins: everyday life, other areas of education and mathematics itself. Knowledge and skills previously acquired by the children, their future education, their interest and the topicality are taken into account. This will make children feel challenged to mathematical activity and so that they will be able to do mathematics at their own level, having fun and feeling contented, individually and in a group at their ability level: asking mathematical questions, formulating and solving problems.
In the arithmetic-mathematics lessons children learn to solve their problems mathematically and to explain a solution to others in mathematical language. They learn to give and take mathematical criticism showing respect to thoughts of others. Children learn to use explanation, formulation and mutual criticism as specific mathematical working methods to be used individually or together with others for structure and substantiation as well as error prevention.

It is remarkable that this characteristic –without calling it such- gives a comprehensive description of 'mathematical competence'. Moreover in this characteristic some of the cross-curricular objectives from 1998 have been worked out in terms of arithmetic-mathematics.

Summary

Basic education has three functions: culture transfer, personal development and equipment for society and especially for future participation in the job market. These three functions lead to different approaches and objectives of education. The great diversity and fast development in culture, society and job situation make static descriptions of educational content an inadequate means to characterise the educational offering. Elaboration of competence in the sense of 'being able to relate adequately' seems to be a good alternative to bring about unity in thinking about educational offering. However, 'competent' has different meanings in the perspective of culture transfer, development and equipment. Furthermore, another problem is that the pedagogic perspective and the conceptual subject approaches cannot be easily united. Only a multiperspective description seems to offer a solution. The development of the description of core objectives in the Netherlands illustrates that indeed a multiperspective description of the objectives is opted for. Education concerns broad development, which pays attention to the content of the classic subject canon, by a) the subject competences

as described in the 'characteristic' of the subject area and b) objectives that provide an outlook on the repertoire concerning that subject area which the pupils should master. About the question which day-to-day and socially relevant themes should be addressed in school the government does not make statements. Pedagogical objectives and generally formulated competence are until now not mentioned in the core objectives.
All in all it appears that in the core objectives the concept of competence is worked out without having actually used the word.

Competence-directed orientations in secondary education

Developments concerning competences in lower secondary education (12-14 year olds)

In the context of secondary education for 12-14 year old students the word competence is not often used explicitly. The Education Council –an important advisory body of the Minister of Education- has issued a complex report on the organisation of lower secondary education. As the incentive for the renewal of lower secondary education the Education Council (2001, p. 10) mentions reasons such as overload of the programme, insufficient attention for the core objectives and general skills objectives as a whole, limited renewal of the didactic approach, dispersion of the offering. The Education Council is looking at lower secondary education particularly in the perspective of equipment for further training and profession (ibid p. 11), but puts the suggestions for the core curriculum in the perspective of social and personal performance, continuation from primary education and lower secondary education to further education, social relevance, broad education and international curricula (ibid p. 31). The Education Council states that what students should know and be able to do at the end of lower secondary education 'does not only concern the curriculum content, but also influences the organisation and didactics of basic education'. This fundamental reasoning also involves the consideration the advice request (of the minister) refers to, whether core competences may be a better structuring principle for lower secondary education than subjects and/or core objectives. The Council believes full implementation of such a fundamental renewal of basic education is only possible in the long-term, as from about 2010. Thorough consideration as well as the development should then soon be started (ibid p. 15). The Education Council (ibid p. 20 ff) distinguishes questions on the content and the structure of the

educational offering. The subject matter means that concerning the choice of content the following questions are important: the question into the nature of the knowledge, the relationship between subject matter and social activity areas, the relationship between subject matter and the scientific disciplines and the question of attainability (cf. the SLO study by Klep, Letschert and Thijs, 2004). For the structuring of the subject matter the Education Council distinguishes two main principles: according to the subject matter and according to competences. On the competence notion it is remarked (ibid p. 21): *'The competence notion was initially developed in the context of 'human resource development' and vocational education. Competences are considered to be the ability to use a set of knowledge, skills and attitudes to fulfil concrete activities in an adequate way. Its scope is broader than knowledge. Competences considered from a functional approach are structured according to demands and tasks. Complying with complex demands and tasks requires knowledge and skills as well as strategies and routines to apply knowledge and skills, the suitable emotions and attitudes and the management of these elements. Therefore competence goes further than knowledge and skills.*
Based on various reports from different perspectives three core competences can be identified: autonomous and reflexive actions, using instruments interactively (where the term instruments is used in the broad sense: language, laws, material instruments, etc. that are relevant to comply with the demands of daily life and professional life), participating and functioning in socially heterogeneous groups.'
Later (ibid p. 22) the Council states that the desired competences for basic education will perhaps have different accents.

There is a remarkable difference with the traditions in lower secondary education we described earlier, which focus on personal development and culture transfer besides equipment for society and profession.
The Task Group Renewal Lower secondary education (Taakgroep Vernieuwing Basisvorming, 2004, p. 10) agrees with Stevens (2002) (see paragraph 'personal development') in his pedagogical analysis that children need competence, autonomy and relation.
Education that provides for these requirements will benefit from different organisation forms. The Task Group gives four scenarios as examples (ibid p. 30):

- In the first scenario the school remains close to the existing situation. The subjects, their associated teachers and the traditional time-table remain, overlap of subject matter of related subjects is established and teachers make agreements on them.

- A school that goes further regularly provides time for projects: (teachers of) different subjects work together on a theme (scenario 2).
- In scenario 3 the content of different subjects is clustered into learning areas or sub-learning areas, such as man and society, man and nature (sub-learning areas man and health, man and technology), arts and culture. Part of the time of a weekly timetable is allocated to the teachers and students involved, they have a considerable say on the content.
- Scenario 4 does not start from the subject matter content, but from the competences students should develop. Education is then fully thematic and students have a considerable influence on the content.

The Task Group adds (ibid p. 45): *'It is useful to also explore the possibilities these competences offer for monitoring the quality of education, even if this is quite a job because there is little uniformity about the competence-directed approach in the educational sector. At our request SLO conducted a pilot study that showed that nearly all of our 58 core objectives can smoothly be converted into competence-directed objective formulations'*. SLO took the definition of the Education Council as the starting-point. Despite interesting developments in senior secondary vocational education and pre-vocational secondary education, in our opinion there is no consistent innovation underway towards competence-directed education. Closer exploration and research are desirable. This also reflects the Task Group advice (ibid p. 47).

The Task Group Renewal Lower secondary education, remarks (2003, p. 2) that earlier core objectives aim too much at a fictive average student, that the programme is overloaded and dispersed and that active and independent learning are not used to the full. With the proposed new core objectives the Task Group (ibid p. 2) expects student-directed dynamics, with ample room for variety and an incentive for coherence. In the lower years this requires education with the following characteristics (ibid p. 4 ff): *'the student learns actively and increasingly independently, the student learns together with others, the students learns coherently, the student orientates, the student learns in a challenging and safe learning environment and the student learns in a continuous learning line. In the lower years the student develops by learning in rich, meaningful contexts, together with others in a powerful learning environment'*.

Competence-directed learning in pre-vocational secondary education

SLO-projects concerned with pre-vocational secondary education follow the movement that considers competence as a person's ability to show adequate behaviour in certain situations. A person is competent if he uses actions that fit the given situation best ánd if he has shown the ability to do this in similar situations.
Competence-directed learning in pre-vocational secondary education has the following premises:

- from the beginning the students learn the complete activity (whole task approach), including:
  - knowledge, skills, attitudes and personality development are learned in coherence
  - attainment targets from vocational programmes and general subjects are integrated
- the students learn in realistic situations and in doing so assess the meaning of the different activities in a possible role for them in society, in further education and in the job practice
- the students learn actively, with a variety of didactic working methods, individually as well as in groups
- the students organise the learning process themselves, with the support of the teacher; this means that the students:
  - determine the speed and the content
  - record the learning results
- the offer of subject matter is at the service of the development of the competence.

For each competence a learning route is set out, which consists of different levels. Within a level the student exercises with a number of learning assignments, in which he is asked to show adequate behaviour in a specific situation. The learning assignments within one level are of a comparable complexity, but can vary in subject and situation. Learning assignments are realistic situations, as they may present themselves in daily life (job practice, social situations, etc.). When working on a learning assignment students make use of previously acquired knowledge and skills and they are offered new information. This new information is offered at the moment when the student needs it. By relating this information to the information already present, the student learns and the transfer of knowledge develops.

Example of complexity increase

At the beginning of the school year the students of the third year are told that in May of the next year they are to organise a theme week at school together, comprising group activities for fellow students, parents, people from the neighbourhood and others who may be interested. All students of the third year are to contribute to the organisation of one of the many group activities. Throughout the third study year the students will work on this project.

Groups of two or three students start the organisation of simple group activities: for a homogeneous group, small-scale, at school, without budget, without risks of injuries or conflicts in norms and values, etc. They are involved in different activities concerning planning, preparation, execution, completion and evaluation of the organisation of the group activity in every learning assignment. This is done a number of times.
Then they are given more difficult activities. Variables that make the organisation more complex are: a larger organisation team with more roles, heterogeneous target group, more group activities simultaneously, a different environment (arrange venue and entourage), other or extra conditions (for example make the activity self-financing; budget or sponsors), extra activity (for example making publicity).
And then comes the final test: the theme week. Students come up with ideas for a theme, which will be put to the vote. Students enrol stating preferences for the organisation of certain activities. Thus different groups for the various group activities are formed. Everything should fit into a common scenario, everything should be geared together. The groups of students organise their group activity and report on it.

With each assignment the learning process requires less guidance. Students work more and more independently. The teacher is present as a coach and monitor.
Throughout the learning route towards a competence the student can keep an eye on the whole competence. With this 'whole task approach' the student practises right from the start to combine and integrate different knowledge content, skills and attitudes that are conditional for competent behaviour. This practise takes place in situations that are as real as possible and in situations that, according to a certain system, become increasingly complex.
Initially the practise situations will be in school, but students will also have to do assignments outside school. This will strengthen the connection between what is learned at school and 'what you will need it for'. Moreover school and practice will come closer together.
As said before a student may already be working in a situation in his spare time that he is also trained for at school. It is quite possible that he already masters part of the competences, for example returning money at the check out. For the student in question this is a 'previously acquired

skill'. In competence-directed education these previously acquired skills are rewarded, students are not required to learn them all over again. This will raise the students' motivation. However, a student will have to show that he really masters the skill. Showing skill mastery also applies to competences that are acquired during the school career. These competences require a different method of examination and assessment.

Summary

In secondary education there is a need for an alternative for the traditional subject area canon. Student activities in school, self conducting learning, encouraging social abilities, creativity, entrepreneurship and scientific attitudes are seen as important aspects of school. The concept of competence seems to be central in this development. Competence is related to student activities both inside and outside school. Although the word competence is not always explicitly used, the idea is widely spread in secondary schools.

Competence-directed orientations in vocational education

At all levels in vocational education in the Netherlands renewal is under way as regards development and implementation of competence-directed education:

- at national level a new competence-directed qualification structure is being developed by the Knowledge Centres for Vocational Education
- at school level many developments are in progress, initiated by the management. Schools make use of their autonomy as regards the didactics and at the same time they take into account the new national qualifications that will be introduced in 2005 and 2006
- at micro-level there are numerous teachers who (even before they are obliged to) try out other forms of instruction, monitoring and assessment, with the aim of improved adjustment to the learning style and motivation of their students and also because of improved preparation for the current job practice.

In this contribution we want to outline the developments at national level and describe the development of competence-directed courses for management secretary/ management assistant as an example of innovation at school level.

Towards a new qualification structure for vocational education

Currently 758 qualifications, described in attainment targets, are distinguished in vocational education. Sometimes, the method of description and structuring is clearly related to professional tasks, sometimes to scholastic learning areas, such as modern foreign languages, mathematics and physics. Some qualifications are directed at a broad spectrum of professional situations, for example nurse in general hospitals, in psychiatric hospitals, in health care for the disabled or nursing homes for elderly people. Other qualifications are directed at very specific jobs, such as arc welder, sheet welder, pipe welder, angle welder.

Much effort is put into the development of a new competence-directed qualification structure for Dutch vocational education[8].

The first step in this respect is the configuration of *vocational competence profiles*. This is a responsibility of the social partners in the various branches (employers and employee organisations). A vocational competence profile describes the core tasks and core problems (dilemmas) of a profession as well as the required competences. In comparison with the old situation there are some new aspects:

- increased attention for *problem-solving abilities for professional dilemmas and professional problems,* as they are expected of the modern employee
- the consistently elaborated notion of *broad* competence: the modern employees should not only possess sufficient professional and professional methodical ability ('being able to hold a hammer'), but should also be able to communicate adequately with customers and act effectively inside and outside the work organisation (for example cooperation and coordination with colleagues and external parties)
- the consistent description of the quality requirements the professional performance should comply with: result criteria (product) and process. The systematic attention for process criteria is particularly new.

In the meantime a number of vocational competence profiles have been completed (as a draft or a final version). When studying these documents it becomes clear how difficult it often is to elaborate competence-directed professional characterizations consistently. The new elements are definitely present, but they often remain fairly close to the former task-analytical approach, instead of choosing the more open, flexible

[8] http://www.colo.nl/publicaties.php?Kwalificatiestructuur

problem-solving and result-directed approach to the modern employee. Obviously this presents a risk for the intended renewal.

The second step is clustering and conversion of vocational competence profiles in new *competence-directed qualifications*. In comparison with the past, the new aspects include:

- the effort to cluster related job profiles more than ever, with the intention of broader training. At present this operation appears to be only partially successful. At the start of the renewal operation a considerable reduction of the current number of qualifications could be observed from well over 700 to 120 broader competence-directed qualifications. Trade and industry on their part keep emphasizing that qualifications should link up as clearly as possible with existing job positions and that qualified students should be able to start work as quickly as possible. The 19 knowledge centres for vocational education and trade and industry find it difficult as well to realise mutual agreement across the branches. In spite of all this, at the moment some 300 new qualification dossiers are in the pipeline
- the explicit attention for learning and career skills. One of the motives behind the new development is the notion of lifelong learning. In the renewal operation the emphasis is placed on the notion of *responsive professionalism*. Professions are not static. A modern employee is expected to bring his/her own ability continuously up-to-date and to keep working on his/her own personal employability. In addition to this there is increased attention for (learning)careers, particularly the transfer to higher education level. In the future the Dutch knowledge economy will need more highly educated labour. Increased influx in higher vocational education will pre-eminently have to come from secondary vocational education (because graduates from higher general secondary education traditionally already enter higher education). A cross-branch profile for learning abilities has currently been developed. However, the knowledge centres of the individual branches are to decide for themselves how the learning abilities are integrated in the qualifications. In practice this will undoubtedly result in differences in measurements and elaborations. Competences required for adequate performance as a *citizen* are also included in the qualification. In the final version of June 2004 competences for economic, social, cultural, political, normative and organizational citizenship are distinguished. This is a considerably broader elaboration than the current socio-cultural attainment targets in vocational education.

The *third step* is the development and implementation of competence-directed examinations and curricula. The responsibility for these lies with the schools. Other institutions and companies can be approached or offer to contribute. SLO for example supports national knowledge platforms of schools as well as individual schools in the process of development of competence-directed curricula and assignment series. Knowledge centres, educational consultation offices and educational publishers play an active role in the development of competence-directed education. The completion of hundreds of new qualification dossiers by the end of 2004, will result in a boom of competence-directed curriculum projects. SLO is active in various pilot projects in which new design methods are being tested.

Towards competence-directed courses for management secretary/management assistant

For some years now SLO has been involved in pilot projects for competence-directed education for management secretary/management assistant courses. The existing qualification and the existing curriculum for management secretary have fairly scholastic features: attainment targets and education modules are linked up with learning areas such as Dutch (business communication), modern foreign languages, informatics, economics and practical subjects such as word processing and secretarial practice. Usually 70%-80% of the course time is spent at school and only 20%-30% is dedicated to work placement.

In the new job competence profile competences are described for four core tasks: correspondence, post and filing, internal and external contacts, different kinds of meetings. The profile also pays attention to choices and dilemmas a management secretary should be able to deal with adequately. For example: determining which work tasks require priority, judging which information is relevant for the manager. Core assignments of the management secretary are indicated as being able to execute and monitor different core tasks at the same time, filter and generate information for the management, anticipate actions and duties of the management.

In 2002 SLO developed a blueprint for a competence-directed curriculum in cooperation with four school teachers. As methodology for the design Four-Component Instructional Design Model (4C/ID) by Van Merriënboer (1997) was used. The backbone of the curriculum consists of realistic *integrative* assignments in office simulations at school and in work placements (*practising complete tasks*).

In the course of the curriculum the complexity of the assignments increases, while the teacher support is gradually reduced. It is a well-considered choice to confront students at an early stage with multitasking: you are working on a letter and suddenly you need to answer a phone call from a colleague or customer (played by a teacher or teaching assistant). The simulations take place in different types of company settings, for example a child care centre, a fashion company, a housing association, a regional hospital, a publisher of travel guides, etc. In this way students have the opportunity to practise different contexts. Besides the component of complete task exercises the 4C/ID-model distinguishes three other (supporting) didactical components:

- *supporting knowledge,* which is aimed at learning cognitive strategies (systematic problem-solving) and mental models that enable students to reason and solve problems in the respective professional domain. Hence, this knowledge is aimed at the non-routine aspects of the job execution
- *skills training,* which is aimed at the automation and perfection of routine job skills
- *meaningful information,* which is information required for the execution of routine skills; this information should be available at the time the student is practising this specific routine.

In 2003 a number of pilot schools started the implementation of the blueprint with the support of SLO. The starting situations of these schools varied greatly. Some schools already had (limited) forms of company simulations, project education or problem-directed education, others still had traditional, subject-based curricula. As a consequence differences in implementation came about: one school elaborated and implemented the blueprint very consequentially, other schools introduced the integral working situations of the blueprint for some days or periods per week, besides their existing education. Three pilot schools have since gained experience with testing/assessment of simulation situations. The test has the form of a simulated working day, during which the students should plan their own day by means of a set of assignments (partly with incoming post and email). In the course of the day new assignments are added by the manager or as requests of colleagues or customers. The students are assessed on completed professional products (for example letters and other documents, emails, minutes of meetings), as well as on the observation of their work and problem-solving approach and their professional attitude.
The pilot schools are positive about their new didactic approach. Students can form a realistic picture of the profession much more rapidly; after six

months students as well as teachers already have a clear indication of the chance of success later in the course. Generally drop-out rates are lower now. If students drop-out now, this is for well-considered reasons, for example because they experience very directly that the management secretary work does not come easily to them or it does not suit them. Some pilot schools try to make their education more question-directed. They support students in making personal development plans, in which personal learning targets and learning activities are periodically recorded. This support includes the check that students choose work placements that match their interests and talents. One student for example may feel at home in a managerial or legal environment, while another student fits more easily into a commercial environment. Schools also explore the implementation of development-directed portfolios.

Competence-directed education is associated with new roles and abilities of teachers. Through study days and training sessions teachers in pilot schools have prepared for their new roles as job expert-coach, personal development plan/portfolio supervisor, tutor, educational designer and assessor. Subsequently they need to further develop their abilities by practical experiences. Obviously, this presents various uncertainties. Some teachers enter this adventure enthusiastically, others are reluctant. Much energy is required from the management for coaching of team development and competence development of teachers.

Summary

A new competency-based qualification structure is being developed in vocational education in the Netherlands. The new qualifications are not only aimed at the adequate demonstration of vocational tasks, but also at the capacity to solve workplace problems (critical situations, dilemmas), in order to manage ones own career path on a lifelong basis, and to function adequately as a citizen in the larger environment (economic, political, cultural, and workplace). The renewals are substantial, but the skilful practice of (standard) work tasks remain an important core in the approximately 300 new qualifications in vocational education.

Schools are responsible for the development of a competency-based didactic and assessment, consistent with the new qualifications. In pilot projects, diverse competency-based educational designs were worked out. SLO has, for example, developed a blueprint with a number of educators for competency-based training for executive secretaries and management assistants. In this way, the Four Component Instructional Design Model of Van Merriënboer was managed. The backbone of the curriculum are

realistic simulations of complete work tasks with routine and non-routine problems. In the meantime a number of schools have started with the implementation of the blueprint and with competency-based decisions. This requires, of course, much energy and enthusiasm of management and teachers. Teachers must develop new competencies as expert/coach, tutor, educational developer, and assessor.

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Competence-based curriculum: the Norwegian example

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Summary

The 1990s were the decade of extensive reforms in Norwegian education, which included both changes to the structure, new curricula and changes to pupil's rights. The experiences were that it is easier to implement structural changes than change the pedagogical practise in schools. Therefore, the intention of the new White Paper '*Culture for learning*' is to put focus on the development of schools as learning organisations. In addition, competence-based curricula will be implemented, and the schools shall emphasize on developing pupils' basic skills and learning strategies. In order to succeed with this, a national strategy for raising the competence among teachers and school leaders will be established.

Introduction

The 1990s were the decade of extensive reforms in Norwegian education in a number of areas, both in the ten-year compulsory primary and lower secondary education and the three-year upper secondary education. These reforms included changes to the legislation, changes to the structure of education and a new curriculum.

The background for the reforms was the need to modernize essential aspects of education in Norway due to general developments in society and working life. Indeed, these developments necessitated major changes to the education system.

The reforms began with a new core curriculum for compulsory school and upper secondary education in 1993 (Ministry of Education, Research and Church Affairs, 1993). The core curriculum represented a comprehensive vision that placed compulsory school and upper secondary education in a larger national and international context, and linked education to a vision of developing 'the integrated human being', who is able to take responsibility for himself or herself and others, who is

able to work and study with perspective and understanding, and who has the ability and willingness to meet new challenges.

A central element in the core curriculum is the idea of lifelong learning and its consequences for the education system, which is to present challenges to each individual and stimulate confidence and belief in one's own abilities. Another important aspect is the requirement that schooling must be adapted to each individual's premises and capabilities, or as written in the curriculum: *'Education must be adapted to the needs of the individual. Greater equality of results can be achieved by differentiating the efforts directed towards each learner. The breadth of skills is realized by stimulating the pupils' unique interests and abilities. Individual distinctiveness generates social diversity, and the equal ability to participate enriches society.'* (Ministry of Education, Research and Church Affairs, 1993, p. 5).

Upper secondary education

Upper secondary education's major reform came in 1994 and was called 'Reform '94' (Ministry of Education, Research and Church Affairs no. 33, 1991-1992).
The reform gave new rights to pupils, created a totally new structure of education and provided a new curriculum. As part of the preparatory work for the reform a commission had proposed that the new subject curricula should be competence-based. The aim was to develop the pupils' action competence, and this would be based on four categories: *subject competence, learning competence, social competence and method competence.*

This model was not followed up when new subject curricula were developed. The Ministry chose to use the term 'overall competence' when developing the curriculum for upper secondary education, but the definition itself was unclear, and it turned out that the concept had little impact on the education practised in school. The environment that has taken the furthest steps in adopting this idea is vocational training, both school-based and on-the-job training (Ministry of Education, Research and Church Affairs no. 32, 1998-1999).

In principle the subject curricula were to be competence-based, but a model was chosen where the objectives for the teaching in the subject were supplemented and elaborated with learning targets (also referred to as attainment targets). The result was that the curricula were very

content-oriented, and a general feature was that they were overloaded with content elements. Hence, the competence perspective was relegated to the background by a more traditional content-based education.

Another feature of the subject curricula was that they gave teachers complete freedom of method. The only exception was that a project had to be carried out in all subjects, a project that could well be interdisciplinary. Apart from this it was up to the teachers and the pupils together to choose the ways they wanted to work and the methods they wanted to use.

There has been no systematic evaluation of how these curricula have worked, but some criticism has been heard: they have been accused of being too detailed, that they put teachers and pupils under a time bind when trying to realize the objectives and learning targets and that by specifying so much detailed knowledge there is little time for academic development and renewal (Ministry of Education, Research and Church Affairs: no. 3, 1998-1999).
The latter aspect applied to vocational training in particular. As to the freedom of method, it has turned out that the traditional approach to textbook-controlled teaching has been prominent. Even if the curricula provided great opportunities for methodological variation, these opportunities were not used.

Compulsory school

The compulsory school reform was carried out in 1997, i.e. after the reform of upper secondary education. Compulsory school was extended from nine to ten years when school start was lowered to six years of age. In this connection a completely new curriculum for compulsory school was drawn up.

Under the heading 'one school for all – community and adaptation' the new curriculum emphasized the principle of *'One school for all, which includes all groups of pupils. The school is a workplace and a meeting place for everyone. ... The compulsory school shall help pupils to develop their abilities by being, learning and working together. The school thus helps to reduce social inequality and to develop a sense of community between groups. In a multicultural society, education must promote equality between pupils with different backgrounds and counteract discriminatory attitudes.'* (Ministry of Education, Research and Church Affairs, 1996, p. 62).

Furthermore, importance is attached to school's responsibility for creating a context for learning based on cooperation between the school and the home and between the school and the local community. Cooperation within schools was to have a strong position, and there were to be good opportunities for local development activities.

The curriculum for compulsory school has been thoroughly evaluated by various research groups. They have looked at the way the curriculum was received, how it was used in practical teaching and the results it has had. The overall impression is that the curriculum has been well received by the teachers (Peder Haug, 2004).
Teachers have evaluated one area of the curriculum negatively: the scope of the content of the subject curricula and the ambition level (Peder Haug, 2004).
The subject curricula are very comprehensive and set high requirements, and even if the curriculum is in keeping with the ideas of activity pedagogy, recent knowledge theory and learning psychology, there is a conflict with what researchers portray as a fairly rigorous and detailed listing of subject material and progression in the subject material.

When asked how important the subject curriculum is for teaching, the answer is that most teachers know it well. The subject curriculum is generally used to plan the teaching and is perceived as important. Everything suggests that the curriculum is the most important planning tool, followed by the textbooks. Besides these positive assessments there are critical comments as well, e.g. that it is difficult to combine the detailed content and progression requirements with interdisciplinary, project-oriented and locally adapted ways of working (Peder Haug, 2004). Not everyone is able to meet with the guideline requirements in the subject curriculum when it comes to the scope of topic-structured learning, project work and local subject material.

Not all the teachers approach the curriculum in the same way. Hence, it is also used differently and partly with widely varying results. In the Christianity and general and religious and moral education subject (Norwegian abbreviation KRL), researchers found such major differences between content and ways of working between classes that they question whether the pupils have been working on the same subject (Peder Haug, 2004).

To summarize it may be claimed that the curriculum underwent significant development and improvement both for the compulsory

school and upper secondary education during the 1990s. However, it turned out that the changes and quality improvements that the authorities had expected to develop took far more time than had been assumed. Throughout the 1990s the voices of accountability were heard more and more, for example demands for insight into what was going on in the schools, and the 'bottom-line question': were the desired results being attained from the huge resources invested in education by Norwegian society?

'I første rekke' (First and foremost)

In 2001 the Norwegian government appointed what it called Kvalitetsutvalget (the Quality Commission). This commission submitted its report and recommendations in 2003, and a key part of the report was a proposal to draw up a new curriculum for basic education (compulsory school and upper secondary education) (NOU, 2003).

The commission's point of departure was the important development trait from the middle of the 1990s, i.e. the fact that competence is given more emphasis than knowledge. The reason for this emphasis is that competence has a wider and more dynamic content than knowledge. The commission defines the competence concept thus:
'Competence may be defined as being able to use knowledge and skills efficiently and creatively in interpersonal situations – situations that include interacting with other people in social contexts as well as in vocational or subject-specific situations. Competence comes equally much from attitudes and values as from skills and knowledge.' (NOU 2003, p. 76).

In brief, it may be stated that competence is characterized by having the will and ability to use knowledge, and to use it in a given situation as the basis for acting. Competence refers more clearly to the foundation for creativity, ethical considerations and exercising judgement than the knowledge concept does.

The commission proposed that a common comprehensive curriculum for basic education as a whole should be drawn up and that a greater learning effect would be attained this way.

The commission's wish to use competence as the underpinning for developing a curriculum was based on the perceived need to clarify the objective of education – that pupils and apprentices are able to use the

knowledge, skills and attitudes they have learnt in their basic schooling. The introduction of the competence concept will have consequences for the expectations for education and schooling and what experiences pupils and apprentices will acquire during their educational progression. The challenge will be to realize the objectives represented by the competence concept.

The commission proposed that a basic competence should be the foundation of the revised curriculum. The basic competence would comprise five elements:

- reading, writing, arithmetic
- English
- digital competence
- learning strategies and motivation
- social competence.

The reason why the commission emphasized developing learning strategies is in part due to the strong emphasis on the principle of lifelong learning, which has dominated the discourse on the development of education systems in recent years. It had also come as a surprise when findings from the PISA study showed that the learning strategies of Norwegian pupils were not as good as one had believed. Together with self-esteem, learning strategies were therefore described as part of the overriding concept of self-regulated learning.

'Self-regulated learning means being able to develop knowledge, skills and attitudes that promote future learning and which can be adapted to more situations and contexts than those in which they were acquired. Self-regulated learning depends not only on pupils having knowledge and skills, but also being willing to use these by setting goals and transforming wishes and ideas into practice.' (NOU, 2003, p. 77).

In general, the content of the basic competence would consist of elements that span the subjects. This means that the elements of the basic competence include knowledge, skills and attitudes that are not specific to particular subjects. The central idea in this connection is that the learning activity connected to developing the basic competence must be adapted to the various subjects and stages of basic education.

'Kultur for læring' (Culture for learning), White Paper no. 30 (2003 – 2004)

Based on the proposals from the Quality Commission, the Government presented a White Paper to the Norwegian Parliament in the spring of 2004, focusing on knowledge, diversity and equity.

A key issue in this white paper is the question of what should constitute the basis for a comprehensive revision of the curriculum for compulsory school and upper secondary education. Here it is stated that an important underpinning for learning and development is that pupils and apprentices must be placed in situations where they are given relevant challenges so they can develop their competence.

The main goals of the coming curriculum reform will be to increase the focus on knowledge and skills, and to provide greater diversity and greater equality in the courses of study offered to pupils and apprentices. These objectives shall be attained by empowering schools to make more decisions at the local level, strengthening the basic skills of pupils and providing instruction that is better adapted to each pupil.

In a society going through continuous change, everybody needs to acquire knowledge and competence throughout their lives. The ability to change and the ability to acquire knowledge and to be creative are the most important motivating factors behind value creation in society, and are becoming more and more important for the individual's opportunity for self-realization.

The tempo of the development of knowledge is increasing all the time, which means that the individual has the ongoing need to develop and acquire new knowledge. The ability to continue to learn throughout one's life is therefore essential for each person's life quality and for the possibility of participating in the knowledge society. In this perspective basic schooling cannot be expected to cover all the topics and subject areas that appear to be relevant. When increased knowledge is seen as an important area to concentrate on, this does not mean that the pupils should acquire all the important knowledge in the course of 13 years in school. Rather the aim is that school should be developed as an arena for acquiring basic skills, the will to learn and learning strategies, which will give each pupil the basis for developing knowledge in a lifelong perspective.

Basic skills

The white paper points out that in the discourse on the school's role in society it is occasionally claimed that there is a conflict between democracy, education and equality on the one hand, and concrete knowledge and skills on the other. According to the white paper, pupils need certain basic skills if schools are to pass on our cultural heritage and give the pupils a good general education. A liberally educated human being has developed insight into the complexity of becoming a well functioning adult, as well as understanding of the relationship between the individual and other people and between individuals and society.

The opportunities for pupils and teachers for lifelong learning shall be strengthened by, among other things, emphasizing basic skills. This concerns skills that are necessary underpinnings for learning and development in school, in working life and in society in general. These basic skills are independent of school subjects, but are developed through working with the subject content and knowledge areas in various subjects, and are vital prerequisites for developing new competence. These basic skills may also be understood as prerequisites for the application of subject knowledge in various contexts.

Basic skills may be understood in the same way as the literacy concept, and thus as fundamental tools for every form of learning. The Norwegian focus on developing basic skills may be considered in connection with the UN's Literacy Decade (announced by the UN's General Assembly in December 2001), where an important part of the recommended strategy is to define literacy objectives on all levels in the education system (The Ministry of Education and Research, no. 30, 2003-2004, p. 33).

To ensure the pupils' and apprentices' development of basic skills, the objectives for developing these skills shall be integrated into the competence objectives of all subjects and throughout the entire basic education. In this way they will be highlighted as an important aspect of the tuition in all subjects, and not only in those subjects where they previously have received particular attention, such as in the language subjects and mathematics. The basic skills shall be integrated on the premises of individual subjects and on relevant levels.
Both general education and skills are crucial elements in working life and private life, and are vital for a democratic social development. The basic skills that shall be given priority and special attention in schooling are:

- the ability to express oneself orally
- the ability to read
- the ability to express oneself in writing
- the ability to do arithmetic
- the ability to use digital tools.

(The Ministry of Education and Research, no. 30, 2003-2004, p. 32.)

Basic oral skills

Oral skills are a prerequisite for all subjects, but in the context of languages they have received particular focus. Conscious focus on developing oral skills in all subjects will include teaching pupils how to express themselves orally in situations where they need to speak for various purposes, and to understand how different ways of expressing oneself influence the intended message. In some situations presentation, explanation, demonstration and/or argumentation are important, in other contexts the spoken narrative and reading out aloud may be important. Another central element is to teach the pupils to interpret various listening situations.

The development of oral skills occurs when pupils are able to master more complex listening and speaking situations and genres. This development of oral skills is related to the content in the subjects and the linguistic and expressive norms of these subjects.

Basic reading skills

Reading skills give experiences and enjoyment, but are also a prerequisite for acquiring academic and subject insight. We read in different ways depending on the content and purpose of reading. Reading fiction, for example, will require something else from the reader than when reading non-fiction. The different ways of reading must be learnt. Reading skills are basic to all subjects, a fact that means that teachers of all subjects and on all levels must specify how texts relevant to the trade/subject should be read. To benefit from their reading, readers must have a linguistic competence that is commensurate with the text. This concerns aspects such as expressions that are specific to a subject or field and or words or terms used figuratively.

Reading skills are developed throughout one's entire schooling and in all subjects, as the pupil encounters increasingly complex texts. Understanding varies depending on the content and form of the texts and the reader's knowledge, interests and strategic skills.

Basic writing skills

Even though basic writing skills are a prerequisite in most subjects, currently, specific training in writing skills is a particular focus primarily in the language subjects. In the new subject curricula the importance of writing training must be emphasized in all subjects.

Writing situations are often related to activities in a subject. Thus the writing techniques of subjects reflect their characteristics, internal logic and work methods. In some subjects technical descriptions of equipment and procedures are important; in other subjects the ability to depict emotions is important.

The development of writing skills from an elementary level occurs when children find that writing is something they need in a growing number of areas, and learn ways of writing that give them the tools they need for this. The ability to use such tools may be strengthened by relevant manual and electronic training throughout their school careers, across the boundaries determined by individual subjects. Initially this development is related to the personal everyday experiences of pupils, while later it becomes more socially oriented and related to school subjects.

Basic ability to do arithmetic

Basic arithmetic skills have many aspects and are about communicating, representing, arguing, modelling and processing problems within a broad range of challenges. Arithmetic skills are generally contextual so that they are influenced by the situation they are used in.

Arithmetic skills are part of all school subjects. For some subject topics arithmetic skills will be a prerequisite for approaching the topic. Here arithmetic skills are included in a fundamental way contributing to greater understanding through clarification, formulation and structuring. In other situations arithmetic skills play a secondary role when related, for example, to particular problems and examples. Focusing on arithmetic skills in all subjects will strengthen the learning of the subjects and arithmetic skills.

Development of basic arithmetic skills occurs in interaction with the development of central concepts. The skills are part of the concepts, while the concepts are the basis for developing further skills. Thus arithmetic skills and concepts are related, and dealing with such a

structural aspect becomes important throughout a pupil's entire school career.

Basic digital skills

Digital media are important elements in the day-to-day lives of young persons and children and must be included as a natural element in the learning activities. Basic digital skills are fundamental ICT skills and innovative application of ICT in the learning activities.

The use of digital media in educational activities in and across subjects will give pupils familiarity with and confidence in the technology and its possibilities while also developing awareness related to safe and secure use of the media. The use of digital media in subjects may also contribute to variation in the use of learning strategies and learning arenas in all subjects, as well as contribute to motivation, creativity and development of knowledge in most areas.

Development of pupils' basic digital skills must be effected as a continual process throughout the pupil's entire school career, both as basic skills and in relation to each subject. Digital skills must be shown to be an important part of the subject competence in all subjects through the competence objectives in the subject curricula on the various levels.

Competence and basic skills

Through the simplification of the existing subject curricula the objectives for the pupils' and apprentices' learning shall be set as competence objectives.

Competence is about what one does and is able to do when encountering various challenges, and about the active application by pupils and apprentices of knowledge and skills in their performance of various tasks. Competence entails a focus on both learning processes and the ability to use knowledge and skills in various contexts. While the work to develop basic skills shall be made obligatory by being integrated in the competence objectives, this integration may also help to show the learning-promoting function of the basic skills in the various subjects. When the objectives of the basic skills are integrated into competence objectives in the subjects, they will also help to place greater emphasis on the pupils' more active application of the knowledge they have developed by working with all types of subject content.

When the basic skills are to be integrated into the competence objectives for the subjects, it will be important that these are not expressed as work methods, in the sense that they provide guidelines for different ways pupils and apprentices are to work with the subject material. Instead they must be expressed in a manner that makes an objective visible for the pupils' and apprentices' active use of knowledge and skills in the subjects, trades and education programmes.

Learning strategies

The basic skills – to be able to express oneself orally, to be able to read, to be able to express oneself in writing, to be able to do arithmetic and to be able to use digital tools – must be integrated into the subject competence on the premises of each subject. The basic skills will be continuously developed in the process of education.

The development of learning strategies provides the foundation on which the pupil can continue and broaden his or her subject competence. The white paper (p. 36) defines learning strategies as an ability to organize and regulate one's own learning, to be able to use time efficiently, to be able to solve problems, to plan, carry out, evaluate, reflect and acquire new knowledge and facts. The core of the white paper's understanding of competence also lies within the definition of learning strategies. To acquire and use new knowledge and new facts in new situations in education, work and leisure is a basic characteristic of the pupil's learning strategy.

Development of new learning strategies means skills in planning, implementing, assessing and reflecting. It appears to be extremely important that learning strategies are considered as objectives in the subject curricula and that they are an integral part of the subject competence on the subject's premises.

Learning strategies are not intended to be learnt as a general renewed course in study techniques. Rather the point is that the pupil's learning in mathematics means that the pupil must learn to organize and regulate his/her own learning in mathematics. The same applies in Norwegian, English and so on. The pupil thus is to learn to use time efficiently, to plan, implement and reflect upon his or her learning in mathematics, Norwegian and English and so on. Understood this way, pupil empowerment is clearly anchored not only as a professional responsibility in the instruction in the subjects, but also in the design of

the subject curricula. In both the preamble to the subject curricula and the sections indicating what is comprised by the assessment of subject competence, the curriculum text will have to include learning strategies.

New subject curricula

The most important part of subject curricula will be the objectives for the competence to be attained in the subject after a naturally delimited course of studies. The following principles shall be used as the underpinning for preparing new subject curricula (The Ministry of Education and Research, no. 30, 2003-2004, p. 34):

- to make visible and facilitate for progression; and the connection between compulsory school and upper secondary education shall be an underpinning of the subject curricula for the entire basic education where this is possible
- the subject curricula shall contain objectives for attainable subject competence
- the objectives must be related to the main subject areas. Objectives for the basic skills must be integrated in all subject curricula on the subject's premises
- the objectives shall be designed to lend themselves as the basis for dialogue between all those involved in the schooling (pupils/apprentices – teachers/instructors – parents and guardians – administrators – school owners)
- one set of subject curricula must be drawn up for each subject in basic education, and adaptation to the needs of various target groups is a professional responsibility.

In general, this will represent a significant simplification of the subject curricula. Within the framework of clear, binding competence objectives it is a professional responsibility to determine the methods and techniques that should be adopted to attain these objectives.

The basic skills shall be integrated into the competence objectives for the subjects in relevant areas and on relevant levels. The intention is that the work on developing the basic skills shall be a priority aspect of the schooling in all subjects and on all levels. The basic skills are independent of the subjects in the sense that they are essential tools for all subjects. They are also individually connected to the areas of knowledge and application in the various subjects in different ways. Work with individual skills will be subject-specific and related to the nature of each subject.

The various subjects in both compulsory school and upper secondary education are based on different objectives, and also have different functions in relation to the social and cultural life school is a part of. Hence work on the skills will depend on the subjects' objectives and the various norms that apply to the subjects. It will precisely be by focusing on the basic skills' different importance in the subjects that these skills will be developed in a balanced manner and in close connection with various areas of application.

When the objectives for the basic skills are expressed in competence objectives for grade levels, this means that, in conjunction with central knowledge areas in the subjects, they describe the objective for the pupils' learning expressed as competence. Hence they shall not be understood as isolated skills but rather as an important element of the subject competence pupils and apprentices are to develop. To describe the result of learning as competence means the understanding that knowledge, skills, motivation and abilities work together in various types of problem-solving in various activities.

The challenge for education is to satisfy the prioritising of competence over knowledge as found in social life and working life without undermining central basic skills. Through this shift from knowledge with content-oriented curricula, with objectives stating that through the teaching given the pupil shall 'acquire knowledge about', 'receive an introduction into', 'gain insight into', 'receive valuable orientation about', 'receive more detailed knowledge about', to subject curricula with subject competence as the objective, the perspective on pupil cooperation is also changed.

In subject curricula with subject competence objectives, as part of the subject competence, the pupil is expected to learn to set targets, learn to plan the learning activities in the subject, learn to carry out the learning activities and learn to assess his/her academic performance, achievements and products. Considered in this way, pupil cooperation becomes a necessary part of subject competence, or to put it more precisely, it is related to learning strategies in subjects as part of the subject competence. The development of greater learning ability by involving pupils in plans and working methods is also emphasized in the white paper, where it is stated that: *'Development of the pupils' learning strategies must also become an integral part of the instruction in basic*

skills and subjects' (The Ministry of Education and Research, no. 30, 2003-2004, p. 36).
To satisfy the aim for more equality in the education programme, schools must be provided with better means of adapting education to each pupil, among other things by being given the liberty to choose methods and structures. First, this means that the curricula must not lay down guidelines regarding how to satisfy the objectives, but rather express clear objectives that leave room to facilitate the instruction in relation to individual pupil and apprentice standpoints, interests and backgrounds. Second, the new curricula must not lay down strong guidelines when it comes to what should be the content of the instruction and must not bind teachers and pupils when it comes to the scope of the subject material. Choosing content must be more and more of a professional responsibility.

Bearing this in mind, the existing subject curricula shall be simplified and clarified and state clear and binding national objectives for basic skills and subject competence.

The new curricula will have one objective level. The result education aims for is to be described in the form of objectives for subject competence. An important point is that the pupil's learning result is placed in the centre of the objective of education, instead of having the content of the instruction or the work methods dominate the classroom.

The competence objectives shall be formulated in such a way to make it clear that the aim is that the pupil/apprentice shall be able to master/carry out/contribute to, i.e. objectives for how pupils are to use the knowledge and skills they have developed through their work in the various subjects. This will contribute to strengthening the connection between the curriculum and pupil assessment, a field that is problematic with the current curricula. In the new subject curricula the objectives shall be formulated so that the pupils and apprentices can be evaluated according to these objectives. An important principle in the white paper is also that the objectives shall be worded in a way that may motivate pupils and apprentices and contribute to making the purpose of the instruction in the various subjects visible.

A model for the structure of the subject curricula

As a stage in the work to develop a new subject curriculum structure the Norwegian Board of Education has proposed that the future subject curricula shall have the following four sections (unpublished document).

Section 1: Purpose of the subject

The purpose of the subject shall be the basis for planning the instruction in the subject and shall give a description of the aim of the instruction in a societal and pupil/apprentice perspective. The descriptions in this section shall provide guidelines for the work with the pupils or apprentice's development of competence and deal with the need for understanding learning in a lifelong perspective.

The description shall be based on the following:

- which role does the instruction in the subject have in relation to the social and cultural life outside school?
- what is the purpose of the instruction in the subject (further studies/working life)?
- which overarching objectives should the instruction in the subject aim for?
- which are the subject's responsibilities when it comes to facilitating for the development of skills that are basic for further learning and development?

An important aspect is that the instruction in the subject must not only have the objective that the pupils should acquire knowledge related to today's needs, but that they are to develop learning strategies that enable them to develop and acquire new knowledge in a lifelong learning perspective.

Section 2: The subject's structure

This part of the curricula explains the structure of the subject, where the following aspects are important:

- division into main areas
- division into stages (the stages competence objectives shall be formulated for)
- division into modules, if applicable.

Section 3: Competence objectives in the subject

The objectives for attaining competences shall clearly indicate the objective for the competence the instruction shall aim to have pupils and apprentices develop in each subject. The objectives shall be formulated within the main areas of the subjects. Objectives for the basic skills shall be integrated in the competence objectives on the subjects' premises and on relevant levels.

Section 4: Assessment in the subjects

Most likely a standard text will be drawn up to explain the principles for assessing the subject competence of the pupils and apprentices. The objectives in subject curricula must be formulated so that the pupils are assessed on the basis of these. It will therefore be necessary that assessment standards or assessment criteria are developed on the local level and in connection with national tests and examinations.

From written curriculum to practice

A revision of existing subject curricula in itself gives no guarantee that pupils will learn more and differently than previously, something history has taught us only too well. New subject curricula may give a new direction to instruction in Norwegian schools by being clearer about what the objectives of the instruction are and by showing that the basic skills are an important part of the instruction in all subjects. When subject curricula are less overloaded than they are today, they may also help to give schools more freedom to adapt the instruction to each pupil's abilities and needs, and to choose the content of the instruction in keeping with each pupil's interests.

All this requires competent, professional and autonomous school administrators and teachers who are able to transform the objectives in the curricula so they satisfy individual pupil needs, professionals who have the confidence to assume responsibility for the content of the instruction Thus it is necessary that school administrators and teachers can see the needs of each pupil, that they can uncover individual problems, and that they have the necessary competence to launch the required measures. This means that teachers at all stages of education must understand what the development of the basic skills means in their subjects, and how they can provide those pupils who have not developed adequate skills with the assistance they need.

All this means that the curriculum revision must be considered in relation to the measures in the fields of competence development, teaching aids and guidance. The white paper points out that parallel to the introduction of new curricula there will be major funding to raise the competence of school administrators and teachers via comprehensive schemes for further and continuing education.

The prerequisite for such competence raising is that the teacher education institutions manage to develop programmes that satisfy the needs created by the new curricula. Norwegian pupils are to become better when it comes to:

- basic skills
- subject competence
- learning strategies
- entrepreneurship

(Ministry of Education, no. 30, 2003-2004).

These competence requirements will set new challenges for the traditional teacher education, both the basic teacher training and further education. The decisive factor will be how teacher education can manage to renew itself and give genuine professional training.

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