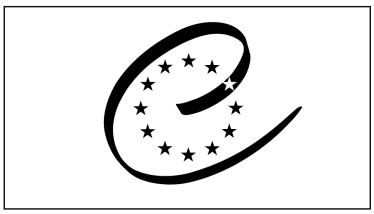

Language Policy Division
Division des Politiques linguistiques

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Language Policy Division, Strasbourg
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Contents

1 INTRODUCTION

Michael Byram (ed.), *University of Durham, United Kingdom*

1.1 Preamble

'Primary' education and its approximate equivalents in other languages is a complex concept. In this paper, we use the term to refer to the approach to teaching and learning rather than the particular stage of schooling. For, in terms of stage of schooling, 'primary' may refer in different countries to preschool classes (as in the case of France) through to Grade 4 (as in most of Germany) or 5 (as in France) or 6 (as in some parts of Germany) or 7 (as in Norway), with the age of commencement of schooling being 4 or 5 or 6 or 7. Furthermore, in some countries, there is no formal division into 'primary' and 'secondary' schooling by institution although the concept of primary and secondary education may be used (as in Norway).

'Primary' thus refers to teaching and learning situations where, for the most part, one teacher teaches all 'subjects' to her one class or group of children. Moreover, the notion of separate subjects may not be present in the minds of teacher or pupils, and may not be evident in the school timetable. The teaching is often by 'topic' or 'project' and the teacher draws implicitly on different disciplines and 'subjects' to render children's 'meeting with the world' more systematic.

1.2 Purpose

Against this background, the purpose of this paper is to examine what kind of language and learning expectations are present (implicit or explicit) in the teaching, what communicative/semiotic competences[1] are being developed or required at two points* within primary education (at the end of Grade 2 of obligatory schooling and at or near the end of primary school – Grade 4 or 5 in most education systems) *with the following purposes*:

1. of identifying the implicit or explicit *pre-requisites*, of linguistic/semiotic competence, for further learning – the 'threshold' or 'minimal standards' implied at the two points in question - which all learners need to attain if they are to continue into the next years of education with potential for success (i.e. where linguistic/semiotic competence will not be the cause of failure whatever other factors may affect them)

2. of analysing the implicit or explicit *development* in linguistic/semiotic competence expected from Grade 2 to the end of primary education (Grade 4/5), by examining the difference between linguistic competence expected at each point

3. of identifying particularly at the second point the *beginnings of subject-specific literacy* (talking, reading, writing, using visual and other modes of communication) in the teaching and learning process

[1] Although the Council of Europe project is focused on 'Languages of Schooling' which includes *Language* across the curriculum, it is evident that not only linguistic competences but other means of making meaning are expected in schools, ability to use other semiotic systems for communication and expression. Even though the main focus remains on language, we will take account of these other modes of meaning-making

4. analysing whether the presence of *speakers of other languages and cultures* is acknowledged in, and used as a basis for enrichment of, the teaching and learning process.

*these two points are chosen for the following reasons:

- at the end of Grade 2: as a point when *an initial phase of literacy development* in general will be complete; as an example of implicit thresholds within curricula which could be used to decide if newcomers to the education system are ready for the following phase
- at the end of primary education (see above re 'primary' in Norway): as the point when pupils are about to enter a phase of education *where subject teaching becomes evident to them* – as they encounter one teacher per subject, for example, or enter a special classroom for each subject – and *subject specific* language and other semiotic modes are expected of them; this too can be seen as a 'threshold'.

This will be done in the first instance[2] by analysis of curriculum documents in three education systems, three case studies: France, Saxony-Anhalt, one of the German Federal States (*Länder*) and Norway (these being the countries which happen to be represented in the working group authors, rather than chosen for a specific reason).

[2] At a later point, textbooks may be analysed, as may classroom interactions.

2 CASE STUDY : FRANCE

Christine Barre de Miniac, *IUFM Académie de Grenoble, France*

2.1 French primary education: nursery and elementary levels

Primary education in France is based on recent syllabi (2002)[3].

These syllabi, the basis for the present report, target precisely those abilities that make use of language in the various branches of learning. The language dimension constituted the great innovation of these syllabi over the earlier ones dating from 1992.

What is called the "primary school" curriculum comprises two levels of education: nursery and elementary.

The French system is original in that nursery school caters for children before compulsory education beginning at 6 years of age. One-third of children aged 2 and virtually all those aged 3-5 are enrolled in nursery school, so much so that today it is considered a normal part of their school career. In nursery school, pupils develop their basic faculties, perfect their language skills and begin to discover the realms of writing and numbers and other branches of learning. Nursery teaching is governed by compulsory syllabi, laid down for each of the three years. *"Language at the core of learning processes"* forms one of the five fundamental strands of these syllabi. On leaving nursery school, the abilities expected are stated as follows: *"When they leave nursery school, pupils can construct complex word forms and link them together to tell a story, describe an object or explain a phenomenon. They are ready to learn to read"*. Thus from the beginning of schooling language with its various functions and uses is central to learning. While speech is the major objective, it is also stipulated that the pupil must be introduced to the various social functions of writing.

They then start the elementary course at six years of age (sixth birthday in that calendar year). This level is divided into two cycles (called cycle 2 and cycle 3 because the first two years of nursery level, forming an integral part of primary education, constitute cycle 1):

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[3] In July 2006 new decrees were published, instituting a "common core" of abilities. It is stipulated that this syllabus does not supplant those of primary and lower secondary education but establishes their objectives so as to define what must be known at the end of compulsory schooling. The common core is made up of seven abilities:

- Command of French;
- Communicative competence in a modern foreign language;
- The main elements of mathematics, and scientific and technological culture;
- Ability to use the commonplace techniques of information and communication;
- Humanist culture;
- Social and civic skills;
- Autonomy and initiative.

To assess pupils' progressive acquisition of the common core, three levels are prescribed: 2nd year of compulsory education; end of primary course: the assessment prescribed at the end of the primary course measures, in particular, acquisition of the fundamental rules of grammar, basic arithmetic with addition, subtraction, multiplication and division; end of lower secondary education (age 15: "lower secondary certificate" examination prescribed to certify that the seven abilities of the common core are mastered).
The recent nature of these provisions accounts for the fact that the tests corresponding to these three levels of assessment are not yet available.

- cycle 2: the fundamental learning cycle (final nursery year + 1st and 2nd years of elementary level): age 6-8;
- cycle 3: the developmental cycle (3rd, 4th and 5th years of elementary level): age 8-11.

The table below summarises the organisational principles of primary education in France and provides the appropriate terminological indications.

CYCLE	LEVEL	GRADE	AGE GROUP
Cycle 1	Nursery	Junior division("Petite section" (PS))	2/3-4 years
Early learning cycle	Nursery	Intermediate division ("Moyenne section" (MS))	4-5 years
Cycle 2	Nursery	Senior division ("Grande section" (GS))	5-6 years
Fundamental learning cycle	Elementary	"Cours préparatoire" (CP)	6-7 years
	Elementary	"Cours élémentaire" 1st year (CE1)	7-8 years
Cycle 3	Elementary	"Cours élémentaire" 2nd year (CE2)	8-9 years
Developmental cycle	Elementary	"Cours moyen" (intermediate) 1st year (CM1)	9-0 years
	Elementary	"Cours moyen" (intermediate) 2nd year (CM2)	10-11 years

The syllabi are set according to cycle, and the expected abilities are determined for each cycle's end. With few exceptions, pupils do not repeat a year within a cycle. Thus primary school leaving age in France is 11 years. In 2000 the percentage of pupils repeating one year during their primary schooling was in the region of 20%. It has decreased very markedly over the last ten years, owing to a deliberate policy in that direction.

At the end of the primary course, all pupils enter "*collège*" (lower secondary), enrolment being universal on completion of primary education, without a promotion examination. The four lower secondary years (grades designated "6ème, 5ème, 4ème, 3ème") of compulsory education are organised in three cycles:

- 6ème: adaptation cycle. The objective is to consolidate the attainments of primary education and ground pupils in lower secondary working methods. A national assessment of the standard which pupils have attained is held on entrance to this grade.

- 5ème and 4ème: central cycle. This is typified by coherence of courses over the two years and by the progressive enrichment of the curriculum. Teaching of physics and chemistry starts in 5ème. Pupils may take a Latin course as an option. In 4ème they choose a second modern language, whether foreign or regional.

- 3ème: orientation cycle. Preparatory to general, technical and vocational education courses. Pupils may take as options one classical language (Greek), a second modern language (regional or foreign) or a "vocational discovery" module.

At the end of their "3ème" year, pupils (about 14 years old) sit for the national diploma "*brevet des collèges*" (lower secondary certificate) and enter different streams:

- a starting grade ("*seconde*") at the upper level of general and technical education ("*lycée*"). The general stream directs students towards extended studies after qualifying for university entrance, while the technical one prepares them to go on to higher studies in technology lasting 2 years or more. The two streams – general and technical – comprise three grades: "*seconde*", "*première*" and "*terminale*". The general or technical option is taken on completing the first upper secondary grade ("seconde"). At the end of the year in "*terminale*" the baccalaureate examination is held; as the university entrance qualification, this is the first higher education diploma.

- or a starting grade ("*seconde*") in vocational education, or a first preparatory year of study in a vocational secondary school for the certificate of vocational aptitude ("*certificat d'aptitude professionnelle*" (CAP)).

2.2. The elementary syllabi

The syllabi for cycles 2 and 3 forming the elementary level of education are nation-wide and compulsory for all teachers and all pupils. Since 1990 the syllabi and the expected abilities have been determined according to cycle. The syllabi are published in a book entitled: "*Qu'apprend-on à l'école élémentaire"*, released in a collection with a wide circulation, sold at a moderate price in bookshops and superstores. It is reissued each year with a message from the Minister of Education to teachers, the most recent ministerial circulars and, under the heading *"documents d'application et d'accompagnement"* (implementing and supporting documents) a selection of theoretical texts (for example, on reading and literature in the 2006-2007 edition) and lists of reference works (in literature, visual arts or musical appreciation, for instance).[4]

2.2.1. Cycle 2: the fundamental learning cycle

General presentation

After a general introduction establishing objectives and timetables, the presentation falls into seven chapters corresponding to seven disciplines. It will be observed that command of language and of French expression forms one chapter among the rest, although the space devoted to it (almost 30 pages as against 5-7 pages for each of the other disciplines) is a sign of the major importance attached to it. By contrast, the cycle 3 syllabi, as will be seen, besides the chapters on the disciplines including French, contain a chapter headed *compétences transversales" (cross-curricular abilities),* command of language in particular. Moreover, the language-specific learning processes are explicitly designed in two phases: cycle 2 of fundamental learning should build up the elementary skills of *speaking, reading, writing and counting*, regarded as "the foundation of school achievement"; cycle 3, the developmental one, "transforms these

[4] The book can also be accessed on line: google/ "Qu'apprend-on à l'école élémentaire".

skills into intellectual tools". Thus the question of how language aids the acquisition of the abilities peculiar to disciplines does not arise until cycle 3, after a phase (cycle 2) during which the basic language skills and techniques are acquired.

The disciplines (subject areas) making up the syllabus are:

- Command of language and of French expression
- Living together
- Mathematics
- Discovering the world
- Foreign or regional languages
- Arts education
    - Visual arts
    - Musical education
- Physical education and sport

Language-related objectives

The syllabi have four types of content designated as follows:

- command of verbal language. Work in two directions is stipulated: consolidating the acquisitions of nursery school through the creation of communication situations in the classroom; provision for learning experiences explicitly aimed at developing and structuring the functions of language. Developing oral expression, enhancing comprehension of narrative and explicative texts, and oral expression of pictorial content are the three main thrusts of work conducted *orally* to *enhance* oral communication. Special attention should be paid to the expansion and structuring of vocabulary.
- Reading: this forms the largest chapter, and the syllabi set out the dual orientation of the work to be done: to make the decoding of the written word an automatic function, and to cultivate comprehension.
- Writing texts: the aim here is clearly stated: at the end of cycle 2, a pupil should be able to produce without assistance a short but structured text, whether narrative or explicative. As to spelling, accurate phonetic spelling must have been learned.
- Assessing the abilities acquired: the text specifies that in addition to the nationwide assessment prescribed at the start of cycle 2, teachers are required to conduct assessments at the beginning and end of learning sequences so as to reorganise the activities in the light of the results.

Timetables

Appendix 1 lays down the timetabling obligations according to two classifications: branches of learning and daily activities.

It should be noted that command of language and of French expression is the branch that takes up the most time: 9-10 hours per week (total teaching time 27 hours per week), 1/3 of the time.

The daily activities concern reading and writing which must take up at least 2h30min. In accordance with the syllabi, it is specified that these 2h30min devoted to writing concern phases of activities aimed at discovery as well as at consolidation of pupils' attainments.

2.2.2. Cycle 3: the developmental cycle

General presentation

For the developmental cycle (concluding the primary curriculum), the syllabi follow this scheme: after an introduction establishing the main thrusts and the timetables, the presentation of the syllabi falls into five broad chapters headed:

- Cross-curricular fields: command of language and of French expression forms one of the two cross-curricular fields alongside civic education;
- French language, literary and human education: this chapter is the most substantial. It embodies the following sub-chapters:
    - Literature (literary activities)
    - Considered observation of the French language (grammar, conjugation, spelling, vocabulary)
    - Foreign or regional languages
    - History
    - Geography
- Scientific education
    - Mathematics
    - Experimental sciences
- Arts education
    - Visual arts
    - Musical education
- Physical education and sport

Note that the "language across the curriculum" project is especially concerned by the chapter on command of language and of French expression seen as a cross-curricular field.

Cross-curricular abilities: definitions and principles

It is stipulated that command of language and of French expression, in their oral and written classroom applications, is the essential goal of primary education. It is the foundation for access to all forms of knowledge. It generates specific types of course content (cf specific content above: "French language, literary and human education"). But it is also developed in the cross-curricular context of all the learning processes, and the work must be geared to the abilities expected at the end of the cycle. These are of two kinds, as they may be general or specific.

- General abilities

  These relate to all the intellectual activities brought into play by the pupil and all the forms of communication that occur in the classroom. They are cultivated

in workshops organised within each subject-area. This is by no means a casual effort but an organised, structured learning process. For example: a pupil giving the class a talk on what he/she is doing cannot extemporise; it presupposes a specific technique: which aspects of the work in hand should be reported? In what order? In what form? Relying on what type of *aide-mémoire*? Etc. The work sequences therefore need to be programmed in more than one subject area.

- Specific abilities

Their primary purpose is to build the knowledge and techniques relating to the branch of learning under consideration: reciting a poetry text; finding a piece of information in an encyclopaedia to evaluate the conclusions drawn concerning the results of an experiment; composing the legend of a geographical document; etc. The abilities expected to be developed are thus covered by a syllabus design specific to the subject area.

Timetables

Appendix 2 sets out the timetabling requirements, divided into two categories linked with the syllabus design described above: subject timetables on the one hand, and those of the cross-curricular fields on the other. The latter must be given 14h30min per week, broken down into 13h for command of language and of French expression, with 2h per day for reading and writing activities; 1h30min for civic education, with 30 min for the weekly debate. These timetabling indications for the cross-curricular fields make up a weekly total of 26 hours.

In the comments accompanying these timetabling grids, there is very strong emphasis on the reading and writing activities. It is stressed that in order to achieve proper command of language, self-reliant use of reading, and writing abilities that are already sound, as major goals of cycle 3 (i.e. for primary school leaving), pupils should read and write daily in all subject areas for a sufficient time.

2.3 Theoretical foundations of the syllabi

The syllabi, devised in 2002, meet two kinds of concerns: observed failure to cope with the demands of secondary school; findings of psychological and educational research.

2.3.1 Observed failure prompts redefinition of French-teaching objectives

Though lying within the median band of the PISA survey of 2003 (given the percentage of 15 year old pupils at levels 3, 4 and 5 – the three upper levels of the evaluation scale for written comprehension), France felt challenged by the findings of the survey. Moreover, it confirmed the recurrent percentage of pupils who leave primary school and meet with writing difficulties on entering secondary school (10-15%).

The process of depersonalisation of education, and above all the extension of schooling beyond the secondary level, also had bearing on the radical redesign of lower secondary French-teaching syllabi (for the 11-15 age group) in 1996. They are built around a speech typology seen as harnessing the methodological objectives to the overall cultural aim. Methodological objectives are to be understood as arising from the desire to give pupils not only a literary culture but also the language-based tools for assimilating knowledge. Thus command of language serves, as it were, a dual purpose:

- communication

The pupil must overcome his/her difficulties with oral and written expression in order to convey more effectively the outcomes of his/her analyses in the various disciplines;

- assimilation of knowledge

Command of language is an ingredient in the formation of knowledge. To serve this second aim, new to French school syllabi, the learning mechanisms that operate in daily classroom life in all disciplines must undergo practical scrutiny; for each discipline, there must be an effort to discern how and why language and knowledge necessarily interact, and what to infer from this in order to make the interaction effective. The novelty of this objective in French education prompted the Ministry of Education to ask some educational researchers to furnish practical teacher training tools in this regard (cf in the references below, the book by Baudry et al.) and organise many national training courses to address the issues involved.

The application of these new syllabi went towards a fundamental renewal in the teaching of French and raised the need for redesign of the primary school syllabi for the sake of consistency and continuity between the two levels of education.

2.3.2 Data derived from basic research

The decision to add assimilation of knowledge to communication as an objective made it necessary to discover suitable and properly grounded models of educational theory and practice. For that purpose, two fields of research were implicitly drawn upon in the text. The syllabi were devised in the context of a "National curriculum design group" formed at the behest of the Ministry of National Education and comprising, in addition to the department's most senior representatives, representatives of the teachers' associations and academic researchers as experts appointed by the Ministry. The syllabi bear the stamp of psychological and linguistic research.

In psychology, two theoretical tendencies corroborate the precedence given to goals of communication and to a knowledge assimilation approach over transmission of knowledge:

- socio-cultural psychology: schools of thought within cognitive psychology, concurring in the view that mental activity has to be studied in context, that is the school contexts and language for present purposes. Language is taken as an element of the social context that aids cognitive development.
- Cultural psychology, which also proposes the hypothesis that language is a tool used by man to give the world around him meaning. Language is at once something to be learned and a tool with which to learn. This reflects the theories expounded by J. Bruner.

Reference to *Vygotsky's* model of social constructivism very substantially guides the application of the syllabi, and fits in with the models described above. Eliciting pupil activity, getting pupils to build meaning when reading, piece together the rules governing the mechanisms of language, etc. Constructing and assimilating language and knowledge through language are the watchwords of the teaching syllabi, and of teacher training.

In linguistics: textual linguistics and discursive linguistics are drawn upon.

Concerning the reference to textual linguistics:

The question of text arises at the outset. From this standpoint, let us observe that the elementary course forms a continuum with the nursery course where text also comes in as soon as pupils are introduced to the realm of writing. From the outset, they are invited to comprehend and to produce texts. The recommended steps for systematic work proceed from the text as a whole to the sentence.

Discursive linguistics:

Implicitly drawn upon as from cycle 2, via the reference to types of texts. But at some times a distinction is to be drawn according to types of discourse or discursive forms (narrative/explicative), while at others reference is made to the text medium (study of documentary texts), or again to genres (literary texts). Thus the concept "type of text" is used broadly, not being strictly confined to the designation of discursive forms (with reference to J.M. Adam's theory for instance) but also used signify the need to introduce diversified genres and media.

In the cycle 3 syllabi, the same perspective applies. The media referred to are still more widely diversified ("*all school textbooks and all reference documents*") and the spectrum of discursive forms is enriched with those of description and prescription.

2.4 The abilities expected at the end of primary education

During the elementary course, the abilities to be attained are defined at two crucial stages: the end of cycle 2 and the end of cycle 3 which marks the conclusion of the elementary course.

2.4.1. End of cycle 2

In line with the foregoing remarks about syllabi, the abilities expected at the end of cycle 2 are called basic abilities, specific to each of the disciplines contemplated. The language skills are described as being linked with the teaching of French. Abilities in the other disciplines are defined by way of knowledge and techniques that pertain strictly to a given discipline, with the rare exceptions of one or two language skills that enter into the disciplines.

There are two classes of French language skills (cf appendix 3): command of the oral language; reading and writing.

For oral skills, their formulation reflects the distinction drawn in the syllabi between informal situations and times for the ordering of knowledge. Two sets of skills are contemplated: communication skills in the dual sense of reception and transmission: *"stating one's viewpoint and reactions … while adhering to the forms of dialogue"*. The knowledge to be acquired relates to what is called "language of evocation" (expression of the abstract). The reference to the spoken word is repeated here: *"in a situation of dictation to an adult (of a narrative or explicative text), suggest appropriate corrections concerning the coherence of the text or its wording (syntax, vocabulary)"*. The theoretical tendencies referred to above are plainly discernible here, with the reference to textual and phrasal grammar and to speech theory.

For writing skills, the association of reading and writing in the same class of skills is to be noted as expressing a desire to associate these two language functions. Indeed, four categories of abilities are contemplated, all linking reading and writing: comprehension; word recognition; production of texts: at the end of cycle 2, a pupil should be able to

write, unaided, a text of at least five lines (narrative or explicative); writing and spelling.

2.4.2. End of cycle 3

At this stage, the language skills to be mastered at the end of the primary curriculum are defined in a section on *"Cross-curricular abilities".* The other sections are discipline-related, almost solely embodying the knowledge and techniques specific to the disciplines concerned. Note that in mathematics and natural sciences, techniques requiring command of semiotic systems are indicated. In mathematics, this concerns the ordering and representation of numerical data (understanding and producing lists, tables, diagrams and graphs); in natural sciences: reading and producing diagrams; using observation and measuring instruments.

"*Acquiring autonomy in intellectual work … which enables the pupil to assume more responsibility in the learning processes"*, these are the terms used in the introduction to the detailed list, with supporting examples, of the "cross-curricular abilities (cf Appendix 4). The list reproduces the two types of cross-curricular abilities mentioned above: general abilities and specific abilities.

The cross-curricular abilities interconnect the two objectives, namely communication and learning. The aims are:

- to know how to make use of the verbal exchanges in the classroom. Examples of situations are given for developing and applying these abilities: examples of situations involving collective dialogue; situations involving group work; exercises.
- to have acquired a command of writing which allows full participation in classroom activities: reading for learning; finding and organising information in a text; drafting a text on the basis of information; etc.

The specific abilities are broken down according to disciplines or subjects taught, these being listed as follows: civic education; literature; language awareness (grammar, spelling, conjugation and vocabulary); foreign or regional languages; history; geography; mathematics; experimental sciences and technology. For each of these subjects, three classes of abilities are expected: speaking, reading and writing. For each class, moreover, a finite list of abilities is given, some set out in general terms and others more specifically. The table below gives some examples of these two classes of abilities in history, mathematics and natural sciences.

Subject	Ability stated in general terms	Ability stated in specific terms
History	Telling the story of an event	Using the specific vocabulary of history properly
Mathematics	Putting a rigorous reasoning process into words	Exchanging arguments about the validity of a solution
Natural sciences	Formulating appropriate questions	Proper use of logical linkages in the context of a rigorous reasoning process

In this framework of syllabi defined as expected abilities, the question of assessment is central and so the Education Ministry website provides teachers with tools for assessment.

2.5 Where French is not the pupils' mother tongue

The syllabi of elementary education do not address the question, but it is contemplated in the nursery school syllabi[5]. The guidelines follow three tracks:

- Avoiding deprecation of the language spoken by pupils in their families: teachers are invited to show pupils that speaking another language in the family circle is not a sign of "cultural relegation".

- It is pointed out that with very young pupils there is no need to organise teaching of the type "French as a second language" as the communication situations linked with daily classroom life are highly effective provided that they take place in a context where plurilingualism is not devalued, and that the pupil receives frequent stimulus.

- A situation of bilingualism, where the two languages do not develop on an equal footing, should not be allowed to take hold. Ways must therefore be found to consolidate at least two functions of the mother tongue: use of "language of evocation", and consciousness of its phonetic realities.

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Appendices to French case study (available in French only)

Annexe 1 : *Horaires obligatoires au cycle 2*

Domaines	Horaire minimum	Horaire maximum
Maîtrise du langage et de la langue française	9 h	10 h
Vivre ensemble	0 h 30 (débat hebdomadaire)	0 h 30 (débat hebdomadaire)
Mathématiques	5 h	5 h 30
Découvrir le monde	3 h	3 h 30
Langue étrangère ou régionale	1 h	2 h
Éducation artistique	3 h	3 h
Éducation physique et sportive	3 h	3 h

L'un des gages de la réussite se situe dans la régularité avec laquelle ces activités sont proposées aux élèves : ils doivent lire et écrire tous les jours pendant un temps suffisant non seulement dans les phases de découverte mais aussi dans les phases de stabilisation des acquis. Au cycle 2 où l'essentiel de la maîtrise du langage est consacré à la construction du savoir lire et du savoir écrire (presque une heure chaque jour pour chacune des deux activités), dès que l'élève devient capable d'une première autonomie, il doit prendre plaisir à relire seul les textes découverts collectivement dans les autres domaines («Découvrir le monde», etc.) et écrire ou copier de sa propre main les textes produits à cette occasion. Là encore, c'est la régularité de l'activité qui compte : ces lectures et ces copies doivent être proposées chaque jour (au moins une demi-heure).

Activités quotidiennes	Horaire minimum
Lecture et écriture (rédaction ou copie)	2 h 30

Annexe 2: *Horaires obligatoires au cycle 3*

HORAIRES _				
Domaines	Champs disciplinaires	Horaire minimum	Horaire maximum	Horaire du domaine
Langue française / Éducation littéraire et humaine	Littérature (dire, lire, écrire)	4 h 30	5 h 30	12 h
	Observation réfléchie de la langue française (grammaire, conjugaison, orthographe, vocabulaire)	1 h 30	2 h	
	Langue étrangère ou régionale	1 h 30	2 h	
	Histoire et géographie	3 h	3 h 30	
	Vie collective (débat réglé)	0 h 30	0 h 30	
Éducation scientifique	Mathématiques	5 h	5 h 30	8 h
	Sciences expérimentales et technologie	2 h 30	3 h	
Éducation artistique	Éducation musicale	3 h		3 h
	Arts visuels			
Éducation physique et sportive		3 h		3 h

Domaines transversaux	Horaire
Maîtrise du langage et de la langue française	13 h réparties dans tous les champs disciplinaires dont 2 h quotidiennes pour des activités de lecture et d'écriture
Éducation civique	1 h répartie dans tous les champs disciplinaires 0 h 30 pour le débat hebdomadaire

Annexe 3 : *Compétences langagières attendues en fin de cycle 2*

MAÎTRISE DU LANGAGE ET DE LA LANGUE FRANÇAISE

COMPÉTENCES DEVANT ÊTRE ACQUISES EN FIN DE CYCLE

Maîtrise du langage oral

Communiquer

Être capable de :

- écouter autrui, demander des explications et accepter les orientations de la discussion induites par l'enseignant,
- exposer son point de vue et ses réactions dans un dialogue ou un débat en restant dans les propos de l'échange,
- faire des propositions d'interprétation pour oraliser un texte appris par coeur ou pour dire un texte en le lisant.

Maîtrise du langage de l'évocation

Être capable de :

- rapporter un événement, un récit, une information, une observation en se faisant clairement comprendre,
- en situation de dictée à l'adulte (d'un texte narratif ou explicatif), proposer des corrections pertinentes portant sur la cohérence du texte ou sur sa mise en mots (syntaxe, lexique),
- dégager la signification d'une illustration rencontrée dans un album en justifiant son interprétation à l'aide des éléments présents dans l'image ou des situations qu'elle suggère,
- dire un poème ou un court texte parmi ceux qui ont été appris par coeur dans l'année (une dizaine) en l'interprétant.

Lecture et écriture

Compréhension

Être capable de :

- comprendre les informations explicites d'un texte littéraire ou d'un texte documentaire appropriés à l'âge et à la culture des élèves,
- trouver dans un texte documentaire imprimé ou sur un site Internet les réponses à des questions simples,
- dégager le thème d'un texte littéraire (de qui ou de quoi parle-t-il ?),
- lire à haute voix un court passage en restituant correctement les accents de groupes et la courbe mélodique de la phrase (lecture préparée silencieusement),
- relire seul un album illustré lu en classe avec l'aide de l'enseignant.

Reconnaissance des mots

Avoir compris et retenu :

- le système alphabétique de codage de l'écriture,
- les correspondances régulières entre graphèmes et phonèmes.

Être capable de :

- proposer une écriture possible (et phonétiquement correcte) pour un mot régulier,
- déchiffrer un mot que l'on ne connaît pas,
- identifier instantanément la plupart des mots courts (jusqu'à quatre ou cinq lettres) et les mots longs les plus fréquents.

Production de textes

Être capable de :

- écrire de manière autonome un texte d'au moins cinq lignes (narratif ou explicatif) répondant à des consignes claires, en gérant correctement les problèmes de syntaxe et de lexique.

Écriture et orthographe

Être capable de :

- orthographier la plupart des « petits mots » fréquents (articles, prépositions, conjonctions, adverbes…),
- écrire la plupart des mots en respectant les caractéristiques phonétiques du codage,
- copier sans erreur un texte de trois ou quatre lignes en copiant mot par mot et en utilisant une écriture cursive et lisible,
- utiliser correctement les marques typographiques de la phrase (point et majuscule), commencer à se servir des virgules,
- en situation d'écriture spontanée ou sous dictée, marquer les accords en nombre et en genre dans le groupe nominal régulier (déterminant, nom, adjectif),
- en situation d'écriture spontanée ou sous dictée, marquer l'accord en nombre du verbe et du sujet dans toutes les phrases où l'ordre syntaxique régulier est respecté.

Annexe 4 : *Liste des compétences langagières transversales devant être acquises en fin de cycle 3 (fin de l'école primaire)*

MAÎTRISE DU LANGAGE ET DE LA LANGUE FRANÇAISE

COMPÉTENCES DEVANT ÊTRE ACQUISES EN FIN DE CYCLE

Tout au long de sa scolarité primaire et secondaire, l'élève acquiert de nombreuses compétences relatives au langage. Elles lui permettent d'accéder à une progressive autonomie dans son travail intellectuel. Pendant le cycle 3, l'élève commence à passer d'un usage scolaire du langage, caractérisé par un fort accompagnement du maître, à un usage plus personnel qui lui permet de progressivement travailler avec moins de guidage, en particulier en lecture. Il prend ainsi plus de responsabilité dans les processus d'apprentissage. Ces compétences sont en cours de construction et donc fragiles. Elles ne se stabiliseront pas avant la fin du collège. Ces compétences doivent être travaillées en permanence, quelle que soit l'activité programmée. Elles doivent être évaluées en premier lieu dans tous les apprentissages et faire l'objet de bilans réguliers.

Compétences générales

Savoir se servir des échanges verbaux dans la classe

Prendre la parole en public est un acte toujours difficile (peur de la réaction des autres, du jugement de l'adulte, inhibitions, traditions socioculturelles, etc.). La maîtrise du langage oral ne peut en aucun cas être réservée aux seuls élèves à l'aise. Il est donc essentiel que les situations mettant en jeu ces processus de communication soient régulièrement proposées à tous les élèves et qu'elles soient conduites avec patience et détermination.

Situations de dialogue collectif (échanges avec la classe et avec le maître)

- saisir rapidement l'enjeu de l'échange et en retenir les informations successives,
- questionner l'adulte ou les autres élèves à bon escient,
- se servir de sa mémoire pour conserver le fil de la conversation et attendre son tour,
- s'insérer dans la conversation,
- reformuler l'intervention d'un autre élève ou du maître.

Situations de travail de groupe et mise en commun des résultats de ce travail

- commencer à prendre en compte les points de vue des autres membres du groupe,
- commencer à se servir du dialogue pour organiser les productions du groupe,
- commencer à rapporter devant la classe (avec ou sans l'aide de l'écrit) de manière à rendre ces productions compréhensibles.

Situations d'exercice

- mieux questionner la consigne orale ou écrite de manière à reconnaître la catégorie d'exercices à laquelle elle est rattachée,
- formuler une demande d'aide,
- lire à haute voix tout texte utile à l'avancée du travail,
- exposer ses propositions de réponse et expliciter les raisons qui ont conduit à celles-ci.

En toute situation

- s'interroger sur le sens des énoncés, comparer des formulations différentes d'une même idée, choisir entre plusieurs formulations celle qui est la plus adéquate,
- rappeler de manière claire et intelligible les expériences et les discours passés ; projeter son activité dans l'avenir en élaborant un projet,
- après avoir entendu un texte (texte littéraire ou texte documentaire) lu par le maître, le reformuler dans son propre langage, le développer ou en donner une version plus condensée,
- à propos de toute lecture entendue ou lue, formuler une interprétation et la confronter à celle d'autrui,
- oraliser des textes (connus, sus par coeur ou lus) devant la classe pour en partager collectivement le plaisir et l'intérêt.

Avoir acquis une meilleure maîtrise du langage écrit dans les activités de la classe

Savoir lire pour apprendre

- lire et comprendre seul les consignes ordinaires de l'activité scolaire,
- lire et utiliser tout texte scolaire relatif aux diverses activités de la classe (manuels scolaires, fiches de travail, affiches d'organisation des activités, etc.),
- consulter avec l'aide de l'adulte les documents de référence (dictionnaires, encyclopédies, grammaires, bases de données, sites sur la toile, etc.) et se servir des instruments de repérage que ceux-ci comportent (tables des matières, index, notes, moteurs de recherche, liens hypertextes…),
- mettre en relation les textes lus avec les images, les tableaux, les graphiques ou les autres types de documents qui les complètent,
- penser à s'aider, dans ses lectures, des médiations susceptibles de permettre de mieux comprendre ce qu'on lit.

Avoir acquis une première compétence d'écriture et de rédaction

- souligner (ou surligner) dans un texte les informations qu'on recherche, puis pouvoir les organiser en liste sur un support de papier ou grâce à l'ordinateur,
- copier rapidement un texte d'au moins dix lignes sans erreur orthographique, correctement mis en page, avec une écriture cursive régulière et lisible,
- orthographier correctement un texte simple lors de sa rédaction ou dans une phase de relecture critique, en s'aidant de tous les instruments disponibles,
- rédiger, à partir d'une liste ordonnée d'informations, un texte à dominante narrative, explicative, descriptive ou injonctive, seul ou à plusieurs, dans le cadre d'un projet d'écriture relevant de l'un des grands domaines disciplinaires du cycle 3, à partir des outils élaborés par la classe,
- réécrire un texte, en référence au projet d'écriture et aux suggestions de révision élaborées en classe et, pour cela, ajouter, supprimer, déplacer ou remplacer des morceaux plus ou moins importants de textes, à la main ou en utilisant un logiciel de traitement de texte,
- mettre en pages et organiser un document écrit dans la perspective d'un projet d'écriture en en respectant les conventions (affiche, journal d'école, fiche technique, opuscule documentaire, page de site sur la toile…) et en insérant éventuellement les images, tableaux ou graphiques nécessaires.

Compétences spécifiques

La mise en oeuvre des champs disciplinaires de chaque domaine est l'occasion de développer de nombreuses compétences de maîtrise du langage. Elles doivent être programmées sur toute la durée du cycle, prévues dans chaque préparation d'activité et régulièrement évaluées.

ENSEIGNEMENTS
ÉDUCATION CIVIQUE
Parler • participer à un débat, • distribuer la parole et faire respecter l'organisation d'un débat, • formuler la décision prise à la suite d'un débat, • pendant un débat, passer de l'examen d'un cas particulier à une règle générale.
Lire • comprendre les articles successifs des règles de vie de la classe ou de l'école et montrer qu'on les a compris en donnant les raisons qui les ont fait retenir.
Écrire • avec l'aide du maître, noter les décisions prises durant un débat, • avec l'aide du maître, rédiger des règles de vie, • participer à la rédaction collective d'un protocole d'enquête ou de visite, • participer au compte rendud'une enquête ou d'une visite.
LITTÉRATURE (DIRE, LIRE, ÉCRIRE)
Parler • formuler dans ses propres mots une lecture entendue, • participer à un débat sur l'interprétation d'un texte littéraire en étant susceptible de vérifier dans le texte ce qui interdit ou permet l'interprétation soutenue, • être capable de restituer au moins dix textes (de prose, de vers ou de théâtre) parmi ceux qui ont été mémorisés, • dire quelques-uns de ces textes en en proposant une interprétation (et en étant susceptible d'expliciter cette dernière), • mettre sa voix et son corps en jeu dans un travail collectif portant sur un texte théâtral ou sur un texte poétique.

Lire

- se servir des catalogues (papiers ou informatiques) de la BCD pour trouver un livre,
- se servir des informations portées sur la couverture et la page de titre d'un livre pour savoir s'il correspond au livre que l'on cherche,
- comprendre en le lisant silencieusement un texte littéraire court (petite nouvelle, extrait…) de complexité adaptée à l'âge et à la culture des élèves en s'appuyant sur un traitement correct des substituts des noms, des connecteurs, des formes verbales, de la ponctuation..., et en faisant les inférences nécessaires,
- lire, en le comprenant, un texte littéraire long en mettant en mémoire ce qui a été lu (synthèses successives) et en mobilisant ses souvenirs lors des reprises.

Écrire

- élaborer et écrire un récit d'au moins une vingtaine de lignes, avec ou sans support,
- en respectant des contraintes orthographiques, syntaxiques, lexicales et de présentation,
- écrire un fragment de texte de type poétique en obéissant à une ou plusieurs règles précises en référence à des textes poétiques lus et dits.

OBSERVATION RÉFLÉCHIE DE LA LANGUE FRANÇAISE

(GRAMMAIRE, ORTHOGRAPHE, CONJUGAISON, VOCABULAIRE)

Parler

- participer à l'observation collective d'un texte ou d'un fragment de texte pour mieux
- comprendre la manière dont la langue française y fonctionne, justifier son point de vue.

Lire

- retrouver à quel substantif du texte renvoient les différents substituts (pronoms, substituts nominaux),
- interpréter correctement les différents mots de liaison d'un texte,
- comprendre correctement la signification des divers emplois des temps verbaux du passé dans la narration,
- se servir d'un ouvrage simple de grammaire ou d'un répertoire pour chercher une information.

Écrire

- repérer, lors d'un projet d'écriture, une rupture du choix énonciatif et la corriger,
- opérer toutes les transformations nécessaires pour, par un bon usage des substituts du nom, donner plus de cohésion à son texte,
- employer à bon escient les principaux mots de liaison,
- marquer l'accord sujet/verbe (situations régulières),
- repérer et réaliser les chaînes d'accord dans le groupe nominal,
- distinguer les principaux homophones grammaticaux (et / est ; ces / ses / s'est / c'est, etc.),
- construire le présent, le passé composé, l'imparfait, le passé simple, le futur, le conditionnel et le présent du subjonctif des verbes les plus fréquents,
- utiliser les temps verbaux du passé dans une narration (en particulier en utilisant à bon escient l'opposition entre imparfait et passé simple),
- utiliser tous les instruments permettant de réviser l'orthographe d'un texte.

LANGUE ÉTRANGÈRE OU RÉGIONALE

Parler

- comprendre quelques énoncés oraux simples dans une autre langue que le français,
- engager un dialogue simple (avec un locuteur facilitant la communication) dans la langue étudiée,
- décrire des lieux ou des personnes connus et faire un très court récit dans une autre langue que le français.

Lire

- reconnaître des fragments de textes dans leur contexte d'usage dans une autre langue que le français.

Écrire

- écrire une courte carte postale dans une autre langue que le français,
- répondre à un questionnaire simple dans une autre langue que le français.

HISTOIRE
Parler • utiliser correctement le lexique spécifique de l'histoire dans les différentes situations didactiques mises en jeu, • participer à l'examen collectif d'un document historique en justifiant son point de vue, • comprendre et analyser, avec l'aide du maître, un document oral, avec l'aide du maître, raconter un événement ou l'histoire d'un personnage.
Lire • lire et comprendre un ouvrage documentaire, de niveau adapté, portant sur l'un des thèmes au programme, • trouver sur la toile des informations historiques simples, les apprécier de manière critique et les comprendre, • avec l'aide du maître, comprendre un document historique simple (texte écrit ou document iconographique) en relation au programme, en lui donnant son statut de document, • comprendre un récit historique en relation au programme, en lui donnant son statut de récit historique.
Écrire • noter les informations dégagées pendant l'examen d'un document, • rédiger une courte synthèse à partir des informations notées pendant la leçon, • rédiger la légende d'un document iconographique ou donner un titre à un récit historique.
GÉOGRAPHIE
Parler • utiliser le lexique spécifique de la géographie dans les différentes situations didactiques mises en jeu, • participer à l'examen collectif d'un document géographique (paysage ou carte) en justifiant son point de vue, • écrire un paysage.
Lire • lire et comprendre un ouvrage documentaire, de niveau adapté, portant sur l'un des thèmes au programme, • trouver sur Internet des informations géographiques simples, les apprécier de manière critique et les comprendre, • lire un document géographique complexe (tableau, carte avec légende, diagramme, etc.).

Écrire

- pouvoir rédiger la légende d'un document géographique,
- pouvoir rédiger une courte description d'un document géographique (paysage),
- pouvoir rédiger une courte synthèse à partir des informations notées pendant la leçon,
- prendre des notes à partir des informations lues sur une carte.

MATHÉMATIQUES

Parler

- utiliser le lexique spécifique des mathématiques dans les différentes situations didactiques mises en jeu,
- formuler oralement, avec l'aide du maître, un raisonnement rigoureux,
- participer à un débat et échanger des arguments à propos de la validité d'une solution.

Lire

- lire correctement une consigne d'exercice, un énoncé de problème,
- traiter les informations d'un document écrit incluant des représentations (diagramme, schéma, graphique),
- lire et comprendre certaines formulations spécifiques (notamment en géométrie).

Écrire

- rédiger un texte pour communiquer la démarche et le résultat d'une recherche individuelle ou collective,
- élaborer, avec l'aide de l'enseignant, des écrits destinés à servir de référence dans les différentes activités.

SCIENCES EXPÉRIMENTALES ET TECHNOLOGIE

Parler

utiliser le lexique spécifique des sciences dans les différentes situations didactiques mises en jeu,

formuler des questions pertinentes,

participer activement à un débat argumenté pour élaborer des connaissances scientifiques en en respectant les contraintes (raisonnement rigoureux, examen critique des faits constatés, précision des formulations, etc.),

• utiliser à bon escient les connecteurs logiques dans le cadre d'un raisonnement rigoureux,

• désigner les principaux éléments informatiques.

Lire

- lire et comprendre un ouvrage documentaire, de niveau adapté, portant sur l'un des thèmes au programme,
- trouver sur Internet des informations scientifiques simples, les apprécier de manière critique et les comprendre,
- traiter une information complexe comprenant du texte, des images, des schémas, des tableaux, etc.

Écrire

- prendre des notes lors d'une observation, d'une expérience, d'une enquête, d'une visite,
- rédiger, avec l'aide du maître, un compte rendu d'expérience ou d'observation (texte à statut scientifique),
- rédiger un texte pour communiquer des connaissances (texte à statut documentaire),
- produire, créer, modifier et exploiter un document à l'aide d'un logiciel de traitement de texte,
- communiquer au moyen d'une messagerie électronique.

ÉDUCATION ARTISTIQUE

Parler

- utiliser le lexique spécifique des arts visuels ou de la musique dans les différentes situations didactiques mises en jeu,
- commencer à expliciter ses choix et ses jugements face aux pratiques artistiques réalisées ou aux oeuvres rencontrées,
- participer activement à l'élaboration d'un projet collectif de création artistique.

Lire

- trouver et lire les documents nécessaires à l'élaboration d'un projet artistique,
- trouver sur Internet des informations artistiques et culturelles simples, les apprécier de manière critique et les comprendre.

Écrire

- rendre compte, dans un projet d'écriture collective, d'une réalisation artistique (catalogue d'une exposition, programme d'un concert, guide pour la visite d'un monument, affiche…),
- participer à l'élaboration collective d'un écrit de fiction en référence à une oeuvre ou à une série d'oeuvres d'art.

ÉDUCATION PHYSIQUE ET SPORTIVE
Parler • utiliser le lexique spécifique de l'éducation physique et sportive dans les différentes situations didactiques mises en jeu, • participer à l'élaboration d'un projet d'activité, • expliciter les difficultés que l'on rencontre dans une activité.
Lire • lire une règle de jeu, une fiche technique, et les mettre en oeuvre, • trouver sur la toile des informations concernant les activités sportives de référence des activités pratiquées.
Écrire • rédiger une fiche technique permettant de réaliser un jeu (matériel nécessaire, durée, lieu…), • noter les performances réalisées et les présenter de manière à réutiliser l'information dans les prochaines séances, • rendre compte d'un événement sportif auquel la classe a participé (dans le cadre de l'USEP par exemple).

3 CASE STUDY: SAXONY-ANHALT, GERMANY

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3.1 Contextualisation

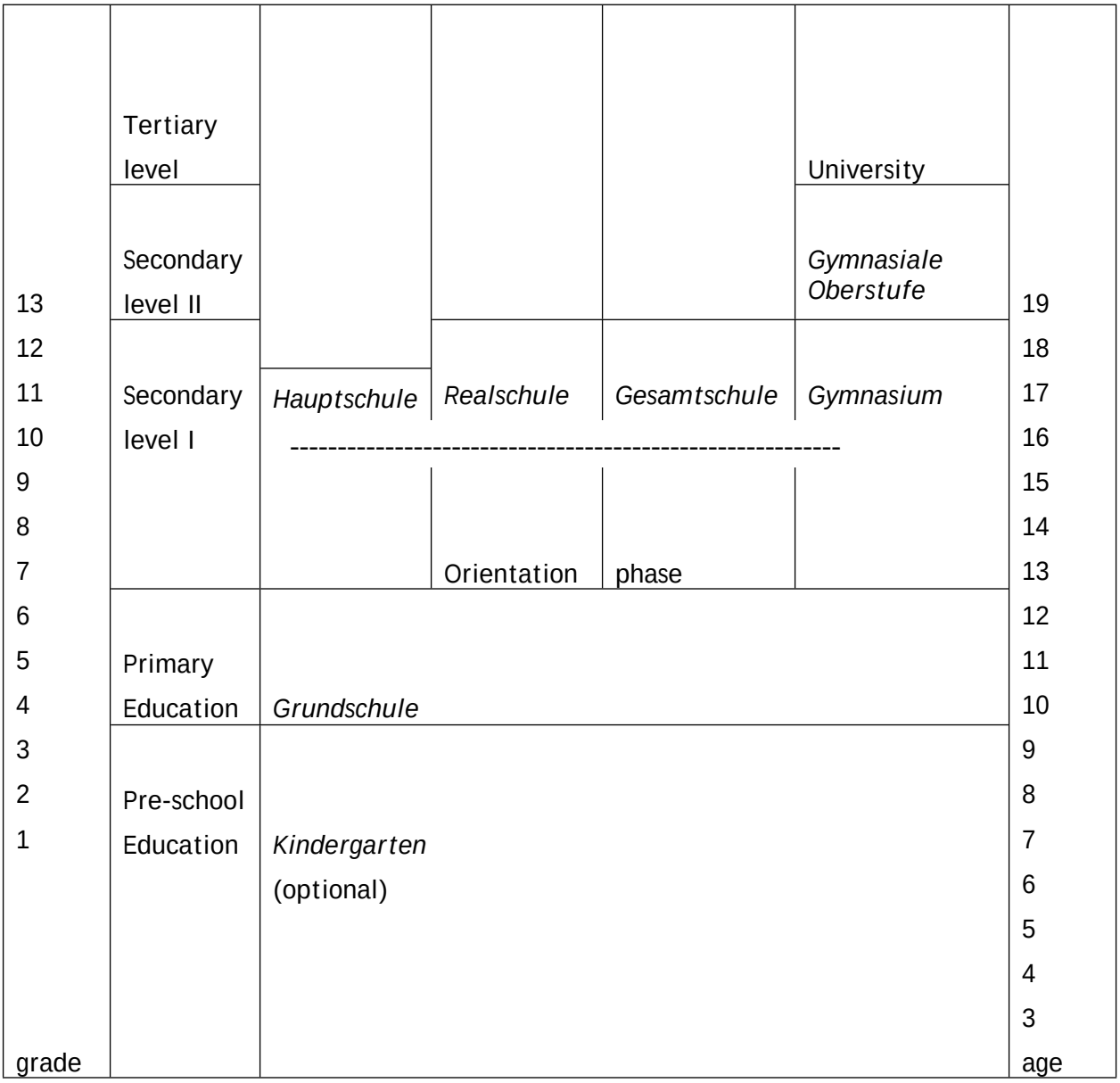
3.1.1 Description of the education system in the Federal Republic of Germany

The educational system in the Federal Republic of Germany is divided into pre-school education, primary education, secondary education, tertiary education and continuing education (see fig. 1). While pre-school education provided by *Kindergärten* is not compulsory and aims at children aged 3-6, compulsory education starts at the age of six. Primary education is provided by the *Grundschule* which covers grades 1 to 4 in most Länder. Berlin and Brandenburg form an exception to this because here the *Grundschule* consists of six grades. At the primary school stage, children attend mixed-ability classes. After the *Grundschule*, however, the school system in the Länder is characterised by different kinds of schools that provide different leaving certificates.

More specifically, secondary education is characterised by four types of schools: *Hauptschule, Realschule, Gymnasium* and *Gesamtschule.* Two general education qualifications can be obtained after 9 years of consecutive schooling (five years at the *Hauptschule*) or 10 years of consecutive schooling (six years at the *Realschule*). The *Allgemeine Hochschulreife* (*Abitur*) is the leaving certificate that qualifies for pursuing university studies. It can be obtained after successful completion of 13 consecutive school years (of which nine years are at *Gymnasium*). However, most Länder are presently involved in the process of converting *Gymnasium* to eight years instead of nine years of schooling. The different leaving certificates can also be obtained from *Gesamtschule*, which combines or integrates *Hauptschule*, *Realschule* and *Gymnasium*.

Irrespective of the school type, grades 5 and 6 introduce the pupils to secondary education and constitute a phase of particular promotion, supervision and orientation with regard to the pupils' future educational path. In some Länder, the so-called orientation stage is organised as a separate school type (*Orientierungsstufe,* or *Förderstufe*).

Figure 1: Basic Structure of the Educational System in the Federal Republic of Germany



3.1.2 Curricular documents

Most German Länder have their own curricula for primary school, but Berlin, Brandenburg, Bremen and Mecklenburg-Vorpommern share a common curriculum. Thus, there are presently 13 coexisting curricula for primary school in Germany. The national curricula are issued by the government of the Länder, for example the Kultusministerium. As a consequence, there is considerable variation between the Länder concerning the formulation of national curricula. On the other hand, the Länder do not have complete freedom in issuing their own curricula. Rather, the Kultusminister-Konferenz (KMK) provides guidance, for example by publishing

[6] Geographically, Saxony-Anhalt is located in the middle of Germany. In terms of its 2.52 million inhabitants (3.5 % of the German population), Saxony-Anhalt is the tenth-largest federal state (as at 15th April 2004). It covers 20,455 square kilometres or 5.7 % of the area of Germany, which means that Saxony-Anhalt is the eighth-largest German federal state.
Like in almost every German federal state, primary school in Saxony-Anhalt takes four years and starts at the age of six (see Figure 1).

documents like the education standards for primary school which were issued in October 2004 for the subjects of Mathematics and German. In these documents, education standards are described as specific competencies and the Länder are obliged to implement them.

The primary school curriculum of Saxony-Anhalt[6] has been chosen for this case study because it is a competence-oriented curriculum that was drafted after the KMK issued the primary school education standards for German and Mathematics. In the following two years, the curriculum for primary school developed by the Ministry of Culture of Saxony-Anhalt was tested and it will come into operation at the beginning of the school year 2007/08. Thus, the present version of the curriculum is a most recent redevelopment.

It was also chosen for this report, because it is a representative example of the ways in which the education standards issued by the KMK are presently being implemented in the German *Länder*. For example, according to KMK standards for Mathematics in primary education, there are five general areas, in which the pupils' mathematical competencies need to be developed – i.e. "problem solving," "arguing," "communicating," "presenting" and "modelling." As the Länder are required to implement national education standards, this typology is also used in the curricula of Saxony-Anhalt, where the competences are more closely described and where specific levels of competences are detailed for the end of grade 2 and grade 4.

There are however no KMK standards, at the moment, for primary school subjects other than for the subjects of German and Mathematics. Furthermore, the KMK standards for the primary school subject German, are differently organized than for Mathematics. For the subject German, the competences are: "speaking and listening," "writing," "reading – dealing with texts and the media," and "investigating language and language use."

3.1.3 The overall philosophy of the primary school curriculum of Saxony-Anhalt

The curriculum consists of three types of documents that need to be read in conjunction. The first type of document consists of one volume for all subjects which puts forth the guiding principles of primary education in the form of "main ideas". It is structured according to (1) *principles of education and Bildung*, i.e., "social learning," "responsibility towards society and nature," "cooperation with parents and social institutions", "living and acting in the world of the media" (2) *school organisation*, i.e., "primary schools as a place for learning, living and making experiences," "heterogeneity as a chance and challenge," and "individual support" and (3) *teaching and learning*, i.e., "active and individualised learning," "cumulative learning", "teachers who act professionally", and (4) *achievement and assessment*, i.e., "a pedagogical concept of achievement", "enhancing student achievement", and "assessing student achievement".

The second type of document consists of several volumes for the curricula of the different subjects, like German as a subject, Mathematics and *Sachunterricht* (General Knowledge). There is no separate History curriculum for primary schools. Instead, *Sachunterricht* refers to a combination of socio-cultural topics, as well as geography, traffic, natural sciences and history. Thus, for this report, the *Sachunterricht*curriculum were analysed, but it is possible to comment on natural sciences as well as on history by analysing the respective sections of the curriculum. But first, a few introductory remarks will be made about the general structure and the basic philosophy of these documents before the linguistic and semiotic competences are analysed.

All three curricula clearly emphasize the systematic advancement of the pupils' competences. The structure of the curricula reflects this. For German as a subject,

Mathematics and *Sachunterricht*, the curricula first outline the general conception of the subject. Then, the curricula describe the process-related competences at the end of Grade 4. It is in these sections that the relationship to the KMK education standards is the most explicit. For German as a subject, the three process-related competences are: "communicating", "reflecting" and "forming conceptions". For *Sachunterricht*, the curriculum describes three process-related competencies, i.e., "investigating," "communicating and arguing" and "presenting". For Mathematics, the curriculum focuses on three process-related competencies as well, i.e., "communicating and arguing," "problem-solving," and "modelling." All three curricula contain one-page descriptions of these competences formulated as standards for the end of grade 4, but not for grade 2.

The following section, which is devoted to the content-related competences, contains more detailed accounts of the competences formulated as standards for the end of grade 2 and grade 4. For German as a subject, the content areas are: "speaking and listening", "reading – dealing with texts and other media", "writing – formulating texts" and "investigating language and language use and writing correctly". For *Sachunterricht*, the content areas are: "society and culture," "geography," "traffic," "natural sciences" and "history". For Mathematics, the content areas are "numbers and operations," "quantities and measuring," "space and form" and "data, frequencies and probabilities". The main part of the curricula consists of close descriptions of the content-related competences. In a final section, there are one-page descriptions of the contribution of the subjects to the development of basic competences. For *Sachunterricht*, the curriculum mentions the contribution of the subject to "reading competence", "writing competence" and "mathematical competence." In the German as a subject curriculum and in the Mathematics curriculum, the contribution of the subject to "reading competence" and "writing competence" are laid out.

The third type of document, finally, consists of separate volumes of tasks (items) for each subject. These volumes are meant to illustrate the competences specified in the subject curricula by describing specific tasks that pupils need to be able to solve. The tasks are classified according to item difficulty (reproduction, reorganisation/transfer, problem-solving). The focus of these volumes lies on the content-related competencies and there are no items illustrating the process-related competencies, like "communicating and arguing". Also, the tasks are organized according to content areas, but they are not classified or analysed according to the competences necessary for solving them.

3.2 Explanatory commentary

3.2.1 Linguistic / semiotic competences in German as a subject, Mathematics and *Sachunterricht* curricula

The curriculum for German as a subject lists "communicating" as one of the three process-related competences. According to the standards specified for the end of grade 4, the pupils are expected to use written and spoken language purposefully, properly, and in a context-specific way. Further, pupils should understand what other people write and say, and be able to report on it in an appropriate language. They should also be able to inform others of their own intentions and ideas in written and spoken language, and the pupils should be able to use stylistic devices that are appropriate for the communicative situation in question.

The Mathematics curriculum lists the linguistic competency of "communicating and arguing", as one of the three major process-related competencies. The curriculum further specifies this competence by indicating that the pupils are expected to gather information from different sources and report on them in their own words. For this, everyday language and mathematical terms should be used. The pupils are also

encouraged to listen to and understand spoken statements concerning mathematical facts. The pupils are expected to ask questions, express ideas and discuss solutions to problems. Moreover, the pupils are to formulate hypotheses, give reasons, understand and check arguments, and are expected to express simple descriptions and reasons in spoken and written language. The curriculum, thus, clearly conceives of Mathematics as a communicative practice.

This is also true for another mathematical competence, i.e. the process-related competence of modelling. For example, the pupils are expected to describe interesting aspects of the environment with the help of mathematical means and they are expected to formulate them as tasks. They are expected to translate everyday phenomena into the "language of mathematics," which also entails describing problems with technical terms. Doing mathematics, thus, goes beyond dealing with numbers, calculating and using algorithms.

Like the Mathematics curriculum, the *Sachunterricht* curriculum provides details about the linguistic competence of communicating and arguing. Pupils are expected to talk about different topics, exchange arguments and make adequate use of technical terms. For this purpose, they are encouraged to develop topic-specific questions, express their thoughts, feelings, impressions, and experiences, and they are expected to put forth their own views in an appropriate way. Furthermore, the pupils are encouraged to describe facts, relationships, and problems, and to discuss solutions to problems. Finally, the pupils are to communicate and give reasons for their decisions. Language clearly plays an important role in all these competencies.

The same is true for the process-related competence of "presenting" described in the *Sachunterricht* curriculum. The pupils are expected to present their ideas, and their solutions to problems by using language, images, and actions. Further, they are expected to collect information about specific topics, and they are required to order and summarise the information. In addition, the pupils are expected to use different means of presentations, for example posters, schemata, drawings, photos and role plays. The curriculum also explicitly mentions semiotic practices in the section on content-related competences. For example, the curriculum states the importance of teaching pupils the meaning of optical and acoustical signs in the content-area "traffic" and the competence of reading maps in the content-area "geography".

As noted earlier, there are no corresponding specifications for the end of Grade 2 which describe the linguistic and semiotic competences expected for *Sachkunde* and Mathematics. Here, the documents for Grade 2 are limited to a specification of content-related competences. The curriculum for German as a subject, however, forms an exception to this. Here, the content-related competence of "speaking and listening" is particularly relevant. The main standard for Grade 2 is: "talking comprehensibly and listening carefully". For Grade 4, the same standard is more complex because the context and the communication partner are also considered: Pupils at the end of grade 4 are expected to "talk appropriately to the addressee and the situation and understand while listening".

3.2.2 Linguistic/semiotic competence as pre-requisite for further learning

The importance of linguistic competence and semiotic competence as pre-requisite for further learning is explicitly mentioned in the first volume of the curriculum that lays out the basic principles of teaching and learning in primary school. For example, under the heading of "Living and acting in the world of the media", there is an explicit reference to the pupils' ability to reflect critically upon the media "as a means of information and communication". The ability to critically appraise information presented by the media is called "media-competence" in the curriculum and associated with the ideas of self-determination, social responsibility and participation

in society. All subjects taught in primary school are expected to contribute to the pupils' ability to deal critically with the information presented by the media.

In the curricula for German as a subject, Mathematics and *Sachunterricht* , this is further specified in the final section of each document, which details the contribution of the subject to selected basic competencies, in particular to reading and writing. The curriculum for German as a subject, for example, states that acquiring methods and techniques for understanding texts forms the basis of successful learning in all other subjects. Also, German as a subject contributes to enhancing the pupils' ability to read in a self-determined way by preparing them to read different kinds of texts and by dealing with the media. The Mathematics curriculum specifically describes the ability to select information from diverse kinds of texts that contain mathematical information, i.e. the ability to distinguish between relevant and irrelevant pieces of information for solving a problem. In the *Sachunterricht* curriculum, there is an explicit reference to methods of reading texts in order to unveil their meaning. For example, the pupils are encouraged to formulate their own questions and thoughts about the text in order to understand the information offered.

As further pre-requisites, affective and cognitive factors are mentioned in the same section. The curriculum acknowledges the role of the pupils' interest, motivation and pre-knowledge as pupils must be motivated to relate the contents of the text to their pre-knowledge in order to make meaning. Pupils must also be motivated to search for additional information in different media.

Linear and non-linear texts are explicitly mentioned as well as diverse kinds of texts, like dictionaries and textbooks. In order to develop the pupils' writing competences, it is important to offer opportunities for recording information in a well-structured way. The pupils need to learn how to write notes and texts appropriate to the addressee and to the intended function. As an additional aspect of this competence, the pupils are expected to use their notes for presentations adequate to primary school pupils.

3.2.3 Development in linguistic/semiotic competence

There is little explicit information on the development of linguistic or semiotic competences in the curricula for *Sachkunde* and Mathematics, and it is difficult to infer what development is expected. This is the case because the process-related competencies laid out in the section above – e.g., communicating and arguing – are described as standards for the end of grade 4, but not for grade 2. The content-related standards for *Sachkunde* and Mathematics, which are formulated for the end of grade 2 and grade 4, focus only on the content rather than on linguistic and semiotic practices and, for the most part, do not indicate explicit developments of linguistic competence.

For example, the section on science in the *Sachunterricht* curriculum describes the general growth of scientific conceptual knowledge from grade 2 to grade 4 in terms of the ability to describe and explain scientific phenomena of increasing complexity. Although the competences of describing and explaining are linguistic in nature, explicit developments from grade 2 to grade 4 are framed in terms of the complexity of the phenomena that are dealt with, not in terms of increasing linguistic complexity. The same is true for the section of the *Sachunterricht* curriculum on history, where the content-related competences of describing, comparing and gathering information about the past and the present are mentioned. These become increasingly complex from grade 2 to grade 4, because the focus widens from considering the topic of "children and the family" in grade 2 to including more diverse historical topics in grade 4, like the historic development of "household items, public transportation and the media." Thus, the developments in linguistic and semiotic competences are implicit.

In the Mathematics curriculum, the situation is similar, as increasingly complex mathematical concepts and processes are addressed in the course of primary school. The emphasis in the section on content-related competences clearly lies on the conceptual knowledge. At some places in the curriculum that detail the content-related competences, however, it becomes clear, that the increasing conceptual complexity in the course of primary school coincides with linguistic development. For example, the curriculum states that pupils in grade 2 need to be able to add and subtract, whereas pupils in grade 4 need to be able to *explain how they proceed* when they do these and other basic mathematical operations. Doing Mathematics, thus becomes a more reflective practice in the course of primary school, which is also visible in the associated linguistic competences.

For German as a subject, the development in linguistic/semiotic competence is made more explicit. Generally, the development from Grade 2 to Grade 4 can be characterized as an increasing recognition of the context and the communication partner. For example, in Grade 2 pupils need to master only a few communicative situations, like consoling or apologizing, whereas for Grade 4, there is a wider spectrum of different situations to master, like giving reasons, explaining, contradicting, criticizing and mediating. Also, from grade 2 to grade 4 communication becomes more structured and is increasingly based on strategies. For example, pupils in Grade 2 are expected to "listen consciously" whereas pupils in grade 4 are expected to "use listening strategies, like asking questions after listening, taking notes, summarizing in one's own words."

3.3 Beginnings of subject-specific literacy

All three curricula describe the beginnings of subject-specific literacy in terms of the ability to read, write, communicate and argue in the language of the subject. In the Mathematics and the *Sachkunde* curricula, learning the subject involves learning to communicate and argue about subject-specific issues in everyday language as well with the help of technical terms.

In the Mathematics curriculum, this becomes obvious in the section on process-related competences, in which "communicating and arguing" is named as one of the three major process-related competences. In the same section, the process-related competence of modelling is equated with learning the "language of mathematics", which means, for example, translating concrete observations from everyday life into the realm of mathematics by formulating mathematical tasks. The Mathematics curriculum also describes subject-specific aspects of reading literacy. In the final section of the curriculum, texts with mathematical contents are referred to, which pupils should be confronted with in order to teach them to select information relevant for solving a problem. Furthermore, these texts are crucial for developing the pupils' ability to understand technical terms. In the same section, the beginnings of subject-specific mathematical literacy are also referred to in terms of writing competence. The curriculum states that pupils should be able to write notes with mathematical contents, formulate sentences that state their solution and give written explanations of how they arrived at a solution to a problem, thereby mentioning important mathematical text genres. There is also an explicit reference to the fact that mathematics instruction contributes to the pupils' ability to orient themselves in space. This ability is expected to contribute to the development of the pupils' writing skills.

In the *Sachunterricht* curriculum, the contribution of the subject to the development of subject-specific literacy is similarly conceived. In terms of communication and argumentation, the pupils are expected to exchange ideas about various scientific and historical phenomena. The curriculum also explicitly refers to different kinds of texts in the final section. For example, the pupils have to deal with technical terms and

subject-specific information from dictionaries and textbooks. There is little information, however, at the level of subject-specific writing activities. Lab reports or descriptions of simple experiments are not explicitly mentioned in the content-specific competencies, for example, though simple experiments are named, like the investigation of objects that can swim.

3.4 Acknowledgement of the presence of speakers of other languages and cultures

The presence of speakers of other languages and cultures is explicitly acknowledged in the general document, where fundamental parameters of teaching and learning in primary school are described. Here, heterogeneity is described as a chance and a challenge for learning. The curriculum explicitly states that heterogeneity results from the fact that in primary schools there are pupils of different cultures, languages, religions and social classes. Because of linguistic, cultural and social diversity at primary school, it is of great importance that all subjects contribute to intercultural learning and integrative learning and foster mutual acceptance and high esteem for diversity. For the subjects of Mathematics and *Sachunterricht*, however, there are no specific references to heterogeneity apart from the content area "society and culture" of the *Sachunterricht* curriculum, where the diversity of people with different interests and life styles is explicitly mentioned.

3.5 Implicit or explicit theory of communication

An implicit theory of communication is expressed in the curriculum for German as a subject insofar as the process-related competence of "Communicating" (p. 7) is described as consisting of different abilities which complement each other: writing, talking, understanding, reacting. By using expressions such as "being able to report in an appropriate language" (p. 7), "informing the addressees in such a way that they understand" (p. 7), or "using stylistic devices which are appropriate for the communicative situation in question" (p. 7), the curriculum makes it clear that in a certain situation some ways of conveying meaning are more apt than others. In order to improve their ability to choose a suitable "channel" of communication, the pupils are expected to "evaluate the language use of others in a critical way" (Process-related competence "Reflecting", p. 7). The children are also expected to be flexible in communicating, when they have to "be increasingly able to put themselves in the emotions and thoughts of other people" (Process-related competence "Forming conceptions and ideas", p. 7). This ability is mentioned again in the content-related standards: Whereas grade 2 pupils should just be able to "take part in conversations and use simple rules and conventions of conversations" (p. 8), grade 4 pupils already have to "take different roles in conversations" (p.8), which demands a lot more flexibility. Also the required level of persuasiveness increases, when Grade 2 children are to "express their own opinion" while Grade 4 pupils should already "use reasoned argument" and to "reply to objections of listeners" (p. 8). Toulmin[7]'s levels of argumentation may implicitly be contained in these standards.

Concerning the school subject Mathematics, there are almost no traces of a communication theory underpinning the curriculum. Here too, pupils are expected to listen, to understand, to ask, to discuss and to formulate, but unlike in the subject German, there is no stress on appropriateness to the situation and the context. The curriculum for *Sachkunde* too contains the content-related competence "Communicating and arguing" (page 7 of the original curriculum for Science). Here, the pupils are not only expected to "talk comprehensibly on different topics and fields", but also "to use reasoned argument and technical terms" (page 7). Like in German as a subject, the pupils should also be able to form an opinion and to convince

[7] Toulmin, S. (1958). The Uses of Argument. New York, Cambridge University Press

others by giving reasons and describing facts (page 7). The ability to "describe problems" (page 7) might imply that the pupils have to take different points of view, but this is not explicitly mentioned. However, in *Sachkunde* the pupils also learn social skills which are important for communication. In grade 4, for instance, all pupils should be able to "react to conflicts in an appropriate way" and to learn "to say no" (page 8).

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Appendix

Table 1: Content-related standards at the end of grade 2 and grade 4 respectively (German)

END OF GRADE 2	END OF GRADE 4
talking comprehensibly and listening carefully subordinate competences, for example: • taking part in conversations and using simple rules and conventions of conversations • talking to others about a certain topic and expressing one's own opinion • telling and explaining things in a coherent and logical way • listening with awareness and understanding contents	talking appropriate to the addressee and the situation as well as understanding while listening subordinate competences, for example: • forming and using rules of conversation, taking different roles in conversations • discussing about a certain topic, holding one's own opinion by using reasoned argument, and solving conflicts • telling and explaining things in a well-structured way and with a certain intention, e.g. with the help of notes, keyword cards, etc. • using certain strategies for listening, e.g. asking questions after having listened, making notes, reporting in own words what has been said
reading and understanding age-appropriate texts subordinate competences, for example: • reading children's books and reporting one's impressions • talking about personal experiences with media, e.g. movies, films, audio plays, or puppet theatre • uttering spontaneous feelings and thoughts about the text • reading texts accurately and precisely	reading and understanding age-appropriate texts and using them for own interests, acquirement of knowledge, and problem solving subordinate competences, for example: • reading children's books with different topics and speaking out on essential information of the text, especially on characters and their actions • using and making well-founded decisions of a range of media such as newspapers, magazines, radio, television, sound storage media, picture carriers, and internet (if available) • developing and expressing ideas, thoughts and feelings while reading or listening to literary texts • using strategies for the first orientation towards a text

• using working techniques for comprehensive reading, e.g. underlining important aspects, dividing a text into sections, finding titles, assigning pictures to the text	• using techniques for information gathering and text comprehension, e.g. highlighting information, finding key words, formulating notes
• inquiring if one has difficulties understanding a text	• informing oneself with the help of dictionaries, encyclopedias, or electronic media if one has difficulties understanding a text
writing actively and experiencing it as personally important and significant subordinate competences, for example: • writing down own experiences, thoughts, emotions, requests, wishes, and ideas • writing neatly and legibly	taking part in the elementary culture of writing in various ways subordinate competences, for example: • writing autonomously – producing comprehensible and well-structured texts which are appropriate to the addressee and the intended function: demands and arrangements; experiences and facts • having a well-legible and fluent handwriting
using words and sentences in simple linguistic connection subordinate competences, for example: • recognising and using parts of speech and different kinds of sentences • forming composed nouns and verbs • recognising changes in the meaning of different word forms • understanding the beginning and the end of sentences, understanding sentences themselves as a structured unity in meaning and sound • forming meaningful sentences	recognising structures and functions of language and using them for standard writing, speaking, and text comprehension subordinate competences, for example: • using parts of speech and various kinds of sentences in relation to the text and the situation • using knowledge about word formation in nouns, verbs, and adjectives for one's active language usage • deducing the meaning of words from the context or with the help of dictionaries • recognising and naming parts of a sentence in different positions and with different meanings within the sentence • changing the intended meaning of a sentence by reordering, replacing and adding parts of the sentence

Table 2: Content-related standards at the end of grade 2 and grade 4 respectively (Mathematics)

END OF GRADE 2	END OF GRADE 4
• reading and writing numbers • describing ways • naming geometrical figures • naming even figures • naming relations in space of two straight lines	
• solving tasks (orally and in writing) • using different ways of speaking and writing • describing geometrical and even figures with own words	• explaining paths towards a solution • written addition and subtraction • deciding whether written or oral calculation is sensible for the task in question • describing relations • describing geometrical and even figures • formulating hypotheses • recognising and describing regularities in geometrical designs • checking and formulating the probability for experiments which are dependant on chance

Table 3: Content-related standards at the end of grade 2 and grade 4 respectively (*Sachkunde*)

END OF GRADE 2	END OF GRADE 4
• describing use and dangers of wind and air • observing, naming and describing properties and alterations of water in nature • naming and describing different animals and plants existing in the surrounding • naming and giving reasons for healthy ways of life	
• paying attention to interests and needs of others • expressing approval and disapproval in different situations • explaining meanings and customs of feasts • presenting one's own consumer behaviour • understanding and drawing the position of objects in space • talking about the use of fire	• judging common and differing styles of life • handling conflicts • reacting to conflicts in an appropriate way • reporting on the life of children in other countries • judging one's own consumer behaviour critically • learning to say "no"

• naming dangers and consequences of fire • talking about water as a prerequisite for life and presenting the danger of water for the environment • naming parts of the body as well as gender-specific differences • presenting periods of time • comparing past and present	• talking about advertisement that is well-covered by the media • reading/describing maps of Saxony-Anhalt and gathering information from them • judging the behaviour of other, e.g. as road-users • reading timetables • describing the work of the fire brigade • naming consequences of water pollution • describing the natural water circulation • taking responsibility for nature and giving reasons for one's own behaviour and actions • explaining select parts of the body and their most important functions • describing changes and important phases in a person's life • formulating visions of the future • describing the future

4 CASE STUDY: NORWAY

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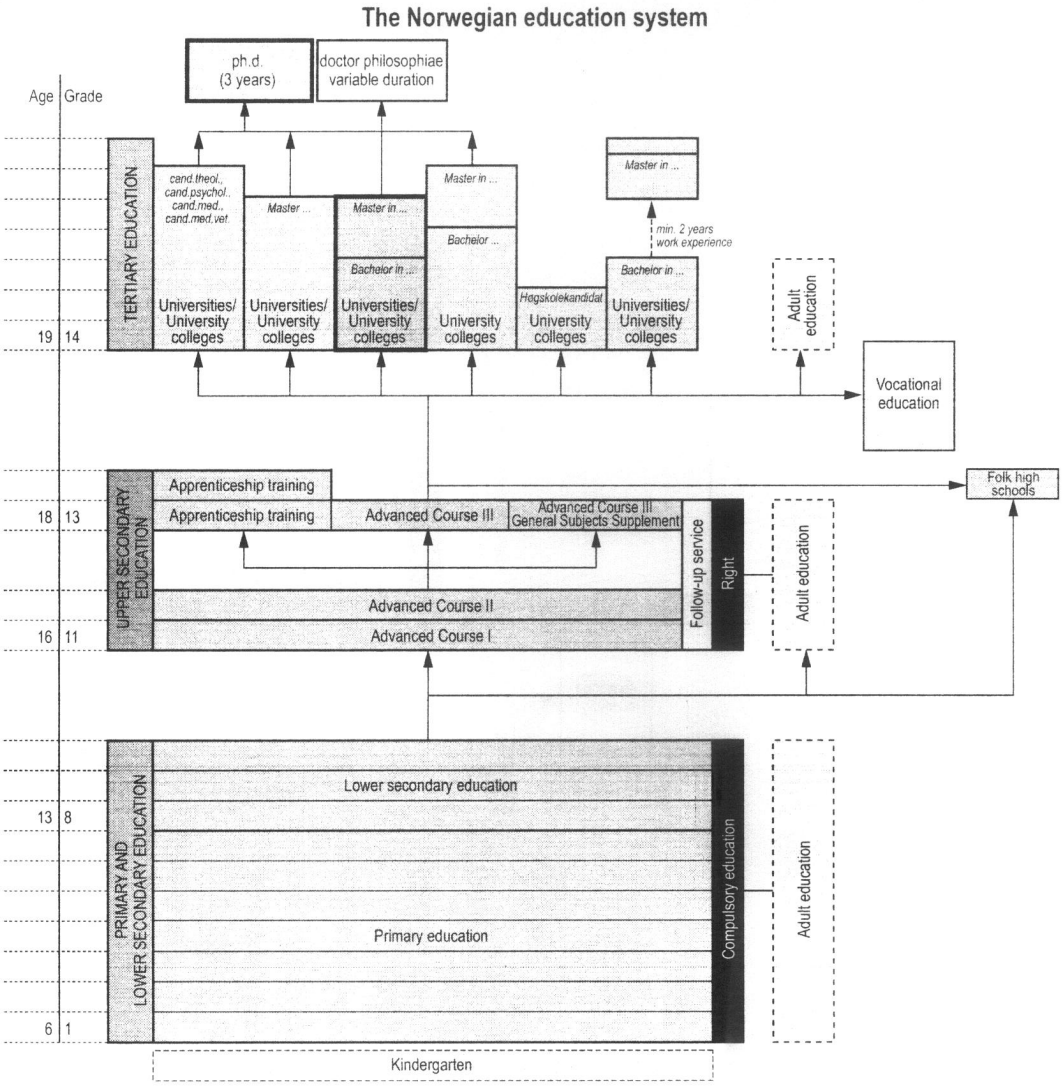
4.1. Contextualisation

In Norway all children attend ten years of compulsory and comprehensive education (*grunnskole*). Compulsory education consists of *primary school (years 1-7),* starting at the age of six, and *lower secondary school (years 8-10),* ending at the age of (approx.) sixteen. After that everyone has a right to go on to *upper secondary education* (*videregående skole*) (*years 11-13*), which offers a number of different programmes, ranging from more practical and vocational to more theoretical education programmes (see diagram).



The Norwegian Ministry of Education is responsible for national curriculum documents in Norway. Until 2006 there were separate curricula for compulsory education (*grunnskole*) and for upper secondary education (*videregående skole*) – even if the curriculum documents of 1997 did include a "core curriculum" defining overall goals and basic values for all thirteen years. (This core curriculum is still in force - see http://udir.no/upload/larerplaner/generell_del/Core_Curriculum_English.pdf).

Since 2006, for the first time, there has been a new national curriculum for all thirteen years, called *the National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training* (LK06). The national curriculum is organized with separate subject curricula for each school subject all the way from the first year of school, even though one teacher usually teaches all or most subjects in primary education (years 1-7), and different subjects are frequently integrated in 'topics' or 'projects'.

While some earlier curriculum documents – e.g. the previous one for primary and lower secondary education (L97) – gave directions not only about educational goals for different subjects, but also about content, activities and even methods for different grades, the curriculum philosophy in LK06 is to define a set of 'competence aims' for certain stages in the educational process, i.e. what the pupils are supposed to know or be able to do in each particular subject, leaving to schools and teachers to decide materials and methods. For most subjects 'competence aims' are defined after the 4th, the 7th, the 10th year in primary and lower secondary education and after the 11th, the 12th and the 13th year in upper secondary education. For some subjects, including Norwegian, mathematics, English and natural science, competence aims are also defined after the 2nd year.

An important new feature in LK06 is the definition of *five basic skills* to be cultivated in all subjects. These basic skills are -

- the ability to express oneself orally
- the ability to read
- the ability to do arithmetic
- the ability to express oneself in writing
- the ability to make use of information and communication technology

(http://www.regjeringen.no/en/dep/kd/Selected-topics/andre/Knowledge-Promotion/New-elements-in-the-subject-syllabuses-.html?id=426334&epslanguage=EN-GB)

As can be seen, four of the five skills are what might be called linguistic or communicative competences. These basic skills are integrated in the subject curricula for all subjects, and all teachers are expected to give attention to them. Following up international tests of reading and writing competence (PISA survey), special emphasis is given to reading and writing in the new Norwegian national curriculum, starting from the first grade in the 10-year compulsory school.

In the following, we will examine what kind of language and learning expectations can be identified in the subject curricula for mathematics, natural science, history (one of three main subject areas in the subject called social studies), and Norwegian, after the 2nd and the 4th year. It should be noted, however, that for social studies/history there are no 'competence aims' defined after 2nd grade.

(Note also that primary education in Norway includes grade 7, but for the sake of international comparison we will concentrate on the expectations of linguistic competence after grade 2 and grade 4).

4.2 Explanatory commentary

4.2.1 The description of linguistic/semiotic competence in four subject curricula in Norway[8]

All subject curricula in the new national curriculum include introductory statements about how the five basic skills are to be developed in subject-based work. The following example from the subject curriculum for natural science about the ability to express oneself orally and in writing gives an idea of how these statements are formulated:

> *Being able to express oneself orally and in writing* in the natural science subject means presenting and describing one's own experiences and observations from nature. In the natural science subject, written reports from experiments, fieldwork, excursions and technological development processes are an important part of the work. This includes the ability to formulate questions and hypotheses and to use natural science terms and concepts. Arguing for one's own assessments and giving constructive feedback is important in the natural science subject.

We will return later to what is said in these introductory statements about oral and written communication.

How, then, is linguistic competence described in the defined 'aims' after grade 2 and grade 4 in the four subjects? As the focus in the national curriculum is on competence to be attained by pupils and assessed by teachers, and as knowledge and competence in many school subjects is best demonstrated in communication of some sort, the competence aims in all four subjects examined have a great frequency of verbs that imply linguistic or other semiotic activity, such as *describe*, *tell about* and *talk about*. Let us look at a sample of competence aims after grade 2. Bold characters in the examples are added here to highlight the linguistic or semiotic learning expectations.

In natural science, first, the competence aims say that pupils should be able to (e.g.)

- ask questions, talk about and philosophise on experiences in nature and man's place in nature
- describe their own observations from experiments and in nature
- describe some important characteristics of the four seasons by observing nature
- participate in various activities in nature and tell others about what has been observed
- name and describe the function of some external and internal body parts
- describe and talk about our senses and use them deliberately during indoor and outdoor activities

In mathematics the competence aims say that pupils should be able to (e.g.)

- make estimates of amounts, count, compare numbers and express number magnitudes in varied ways
- recognise, talk about and further develop structures in simple number patterns

[8] For some of the subject curriculum documents, among them mathematics, natural science, and social studies, there are English translations available from the Norwegian Directorate for Education and Training at the following address: http://www.utdanningsdirektoratet.no/templates/udir/TM_Artikkel.aspx?id=2376). These subject curricula are appended. The new subject curriculum for Norwegian has not yet been translated, and consequently translations of excerpts from the subject curriculum document for Norwegian are mine.

- recognise and describe characteristics of simple two- and three-dimensional figures in connection with corners, edges and surfaces, and sort and name the figures according to these characteristics
- make and explore simple geometrical patterns and describe them orally

In Norwegian the competence aims say that pupils should be able to (e.g.)

- express [his/her] own feelings and opinions
- talk coherently about events (*opplevelser*) and experiences
- talk with others about people and plot (handling) in fairy tales and stories
- use a computer to create texts
- express [their] own text experiences in words, drawings, pictures, music and action (bevegelser)

The most frequent verbs in the subject curricula for natural science, mathematics and Norwegian after year 2 are *describe*, *tell others about* and *talk about*. The 'describing' here is in some cases supposed to be based on children's own direct observations (especially in natural science), in other cases on what has been taught by teacher or by some teaching material. This way of thinking builds of course on a Western scientific way of understanding the world as organized in given ways that can be and should be observed and learned at school. The term 'tell others about' implies that knowledge (facts) and experiences can indeed be communicated to others, often by way of one-way information, while the term 'talk about' implies some sort of mutual sharing or negotiation of knowledge, maybe to some extent even discussion. In Norwegian the use of computers is also directly mentioned after grade 2.

After grade 4 there are defined competence aims also for social studies, including history. Here are some examples of formulations after grade 4 for all four subjects:

In natural science after grade 4 the children are expected to be able to (e.g.)

- use natural science terms to describe and present his or her own observations in various ways
- collect and systematise data and present the results with and without digital aids
- tell others about animals and discuss what is good animal welfare
- argue for appropriate behaviour in nature
- talk about the development of the human body from conception to adulthood
- describe in general terms the structure of the human body, and the functions of some internal organs
- find information with and without digital tools and tell others about some of the planets in our solar system

In mathematics after grade 4 the children are expected to be able to (e.g.)

- describe the place-value system for whole numbers, use positive and negative whole numbers, simple fractions and decimal numbers in practical connections, and express number magnitudes in different ways
- make estimates of and find numbers by means of counting in his or her head, counting aids and written notes, make estimate calculations with simple numbers and assess answers

- recognise and describe characteristics of circles, polygons, spheres, cylinders and simple polyhedrons
- place and describe positions in grids, on maps and in coordinate systems, with and without digital tools
- use non-standardised measurement units and explain the purpose of standardised measurement units, and convert between common measurement units
- collect, sort, note and illustrate data using counting lines, tables and bar graphs, and comment upon the illustrations

In history after grade 4 the children are expected to be able to (e.g.)

- use the concepts past, present and future in relation to him-/herself and his or her family
- present historical topics using written text, drawings, images, film, models and digital tools
- create narratives about people in the past and talk about differences and similarities then and now
- tell others about his or her own family one or two generations back in time, and about how the way of life and living conditions have changed
- elaborate on myths, legends and folk tales with historical content
- describe how stone age people lived as hunters and gatherers by imagining about the first people who came to our country after the ice age
- tell others about the Sami people, Norway's indigenous population, and about key characteristics of the culture and living conditions for the Sami people up to the Viking period

In Norwegian after grade 4 the children are expected to be able to (e.g.)

- interact with others through play, dramatising, talk and discussions and practise rules for group conversations
- Inform, explain, give and receive messages
- express [his/her] own thoughts and experiences about children's literature, theatre, films, computer games and TV programmes.
- Write stories, poems, letters and factual texts
- Organize texts with title, introduction and conclusion
- Talk with others about a selection of songs, rhymes, poems, stories and fairy tales from past and present times written in *bokmål* and *nynorsk* [the two official written norms of Norwegian] and translated from Sami and other cultures

The pupils are still expected to be able to *describe* and *tell others* and *talk about* what they have observed or learned after grade 4, but the level of expectation is raised a little with verbs like *present*, *explain* and *assess*. *Presenting* scientific data or historical knowledge is expected to be done in various modes and media, including digital.

Explaining and *assessing answers* (in mathematics) also imply communication, in this case used for critical thinking. In history critical thinking is connected to the development of historical consciousness, e.g. in the ability to make historical

comparisons, and this is formulated in communicative terms as well: "create narratives about people in the past and talk about differences and similarities then and now". In natural science pupils are supposed to be able to "discuss what is good animal welfare" and "argue for appropriate behaviour in nature", introducing an argumentative form of communication, which is not clearly visible in the other subject curricula at this level.

The subject curriculum of Norwegian is the only one in which form and genres are focused on. Pupils are expected to be able to interact with others in oral genres such as discussions, group conversations and presentations of text, and in the written genres stories, poems, letters and factual texts. There is also in this subject an emphasis on formal and structural organization of texts. Children after grade 4 are, for instance, expected to be able to "organize texts with title, introduction and conclusion".

All subject curricula examined include other semiotic competences than linguistic competence. In mathematics, for instance, children after grade 4 are expected to be able "to collect, sort, note and illustrate data using counting lines, tables and bar graphs, and comment upon the illustrations"; in natural science they should be able to "collect and systematise data and present the results with and without digital aids"; in history to "present historical topics using written text, drawings, images, film, models and digital tools". In Norwegian, for the first time, *multimodal texts* is defined as one of the main subject areas. The children should after grade 2 in Norwegian be able to "work creatively with drawing and writing in connection with reading", and after grade 4 "create stories by combining words, sounds and pictures".

4.2.2 Linguistic/semiotic competence as pre-requisite for further learning

It may be important to emphasise the fact that in Norwegian compulsory education (grade 1-10) there are no formal "thresholds" or exams that have to be passed to go on to a higher level. All children continue through ten years of obligatory school whether or not they attain the aims that are set up at different levels. Nevertheless, as we have seen, there *are* goals or standards of competence defined after certain levels, and in these goals there is a fairly strong focus on linguistic/semiotic competence. Thus, in the subjects here examined, school knowledge, as well as observations, thoughts and experiences, is something to be communicated to others, and children after year 4, year 7 and year 10 are expected to be able to demonstrate their competence and knowledge in various forms of communication, such as telling, explaining, presenting to others. After year 10 there are national exams in some subjects, including Norwegian, with essay writing in different genres and partly about topics chosen by the pupils themselves.

4.2.3 Implicit or explicit development in linguistic/semiotic competence expected from Grade 2 to Grade 4

From what has been said above, the development of linguistic/semiotic competence expected from grade 2 to grade 4 can be summarized, first, as moving from simple to somewhat more advanced forms of communicating (telling or presenting) factual knowledge and experiences, using a wider range of mediating tools, for instance digital. Secondly, as moving from simple telling and asking questions to negotiating knowledge by discussing and assessing. Thirdly, as moving from the basic handling of writing to organizing texts, in different genres, mastering appropriate vocabulary for different purposes and being able to use metaphors, repetitions, contrasts etc in their own texts. And fourthly (at least in natural science), as moving towards taking part in discussions and arguing for a certain view.

4.3 The beginnings of subject-specific literacy

Although subjects to a very large extent are integrated in cross-curricular topics, at least during the first five or six years of primary education, each school subject, as we have seen, does have its own separate curriculum from the start, and in each of them there is what might be called a *subject-specific discourse*. Thus, natural science presents itself as an empirical subject in which pupils are expected make observations and systematize their knowledge of the natural world. The ideal seems to be the scientist observing, analyzing and systematizing the world around him/her. In doing so he/she (and hence the pupils in the subject of natural science) communicates their observations and also their questions and hypotheses, as formulated in the introductory statement about expressing oneself orally and in writing, already cited:

> *Being able to express oneself orally and in writing* in the natural science subject means presenting and describing one's own experiences and observations from nature. In the natural science subject, written reports from experiments, fieldwork, excursions and technological development processes are an important part of the work. This includes the ability to formulate questions and hypotheses and to use natural science terms and concepts. Arguing for one's own assessments and giving constructive feedback is important in the natural science subject.

Similarly, in the defined 'aims' after grade 2 and 4, natural science is constructed as a subject for observation, description, explanation and presenting observations and knowledge to others, and also as a basis for participation in public discussion and argument.

Mathematics, in comparison, appears more as a subject in which language is used to formulate abstract thinking, as in this 'aim': "describe the place-value system for whole numbers, use positive and negative whole numbers, simple fractions and decimal numbers in practical connections, and express number magnitudes in different ways". In mathematics, then, linguistic competence is closely linked to the activities of mathematics and to thinking in mathematical terms. In the words of the introductory statement about basic skills:

> *Being able to express oneself orally* in the mathematics subject means making up one's mind, asking questions, reasoning, arguing and explaining a process of thinking using mathematics. This also means talking about, communicating ideas and discussing and elaborating on problems and solution strategies with others.
>
> *Being able to express oneself in writing* in the mathematics subject means solving problems by means of mathematics, describing a process of thinking and explaining discoveries and ideas; one makes drawings, sketches, figures, tables and graphs. Furthermore, mathematical symbols and the formal subject language are used.

In social studies (including history, geography and sociology) subject-specific literacy is formulated like this in the introductory statement:

> *Being able to express oneself orally and in writing* in social studies means telling other[s] about events in the past and the present, explaining about places and facts and applying definitions, concepts and terms to explain causes and effects in connection with society and culture. It also means being able to present one's own work clearly and comprehensibly to others, and being able to discuss one's own presentations as well as those of others. The ability to express oneself orally and in writing means being able to reflect on the content of meaning in texts, images, film and artefacts, and being able to compare, argue and discuss the value of information and sources, and in hypotheses and models.

The subject-specific literacy of history can be seen in the statement above in the emphasis on "telling other[s] about events in the past and the present", and on "being able to reflect on the content of meaning in texts, images, film and artefacts, and being able to compare, argue and discuss the value of information and sources". It is interesting to note that in history children are expected not only to be able to "use the concepts past, present and future in relation to him-/herself and his or her family", but also to use narratives creatively in understanding people in the past and talking about "differences and similarities then and now".

Among the four subjects here examined, the subject Norwegian – also of course the main language of school in Norway – is the only subject to focus explicitly on texts, language and communication as such. Thus, in the subject curriculum of Norwegian the main subject areas defined are all connected to texts and language: *Oral texts* (including oral use of language), *Written texts* (including reading and writing), *Multimodal texts*, and *Language and Culture*. Interestingly, the introductory statements about the basic skills of expressing oneself orally and in writing are less specific in the curriculum for Norwegian than in some of the other subject curricula. An explanation for this may be the fact that Norwegian as a subject up to now has been considered responsible for the general development of language and communication (partly of course along with foreign language subjects):

> *Being able to express oneself orally* in Norwegian means being able to listen and speak and evaluate the elements of a speech situation, prerequisites for communication with other people in social life and work as well as participation in public life. To speak and to listen are basic human activities, which are further developed in the subject Norwegian through systematic training in various oral genres and activities.
>
> *Being able to express oneself in writing* in Norwegian is another responsibility for the subject Norwegian, from the first teaching of writing to the continued development of writing for 13 years. The use of writing in society is increasing, not least due to the development of digital forms of communication, and the requirements to master written texts in different genres have grown. Writing is a means of developing and structuring ideas and thoughts, but it is also form of communication and a method for learning.

Two features of subject-specific literacy in the subject curriculum for Norwegian are prominent. One is the emphasis on 'expressing' feelings, thoughts, experiences – the verb *express* is not used in any of the three other subject curricula. The other is the focus on genres and the emphasis on reflecting on and evaluating texts and language used for many different purposes.

4.4 The presence of *speakers of other languages and cultures* in the teaching and learning process.

Present-day Norway, like most countries of Europe, is a multicultural society. As far back as history goes, there has been a Sami population with its own language and culture, and in recent years there has been a considerable migration to Norway from many parts of the world. In addition to this, there is a variety of dialects of Norwegian, and two official standards of written Norwegian, *bokmål* and *nynorsk*. This multilingual situation is reflected in the national curriculum in different ways, for instance in the introductory paragraph in the subject curriculum for Norwegian about the objectives of the subject:

> In Norway *bokmål*, *nynorsk* and Sami are all official written languages, and many different dialects and sociolects are spoken, as well as many other languages than Norwegian. Norwegian language and culture develops in a situation characterized by cultural variety and internationalisation, in close contact with other Nordic languages and minority languages in Norway and impulses from English. In this linguistic and cultural variety children and young people develop their linguistic competence. Starting from this linguistic situation children and young people must be assisted in developing consciousness about linguistic variety and learn to write both *bokmål* and *nynorsk*.

For some decades, the rights of the Sami population in Norway have received growing attention, and in the new national curriculum, especially Sami language and culture are very much present, as here in a competence aim for history after grade 4: "tell others about the Sami people, Norway's indigenous population, and about key characteristics of the culture and living conditions for the Sami people up to the Viking period", or in the Norwegian subject curriculum: "talk with others about a selection of songs, rhymes, poems, stories and fairy tales from past and present times written in bokmål and nynorsk and translated from Sami and other cultures".

Reference to speakers other languages, including recent immigrants, is confined at this level of documentation to the remark in the quotation above that the situation is characterized by variety and internationalisation.

4.5 Theories of communication

Whether or not it is possible to identify in a curriculum document a (more or less) consistent theory of communication, depends on what sort of curriculum it is and how it was developed. In the case of the Norwegian national curriculum, there were many different agents in this process, and their ways of thinking about communication and linguistic competence may not have been identical. The process leading to the 2006 national curriculum (LK06), was from the beginning a political one, starting from a governmental initiative which laid down certain constraints for further work with the curriculum, for instance that the five 'basic skills' should be taken care of in all subjects.

In the next phase, however, the concrete development of objectives and competence aims for different subjects was handed over to subject-specific groups of people with expert knowledge of the subject in school at different levels. Since they represented different subjects and disciplines, these experts might well have based their work on different theories of communication, text and genres. In the end the Norwegian Directorate for Education and Training had the responsibility of assuring that all proposals from the expert groups followed the main pattern set up by the government, but this did not necessarily mean that the directorate made substantial changes in the drafts from the subject-specific groups. Due to this, it would not be surprising to find different theories of communication implicit in the final document.

Indeed, it may be possible to identify in LK06 a certain tension between a view of language competence as *skills* and as *discourse competence* and participation in society. The first is a somewhat technical and instrumental view of language, implying the mastering of a technology and susceptible of being tested. The whole idea of 'basic skills' and of 'competence aims' to be tested stems from the political anxiety in the wake of international tests of reading and writing (PISA survey). The second one is a more sociocultural view, in which language competence is connected to the development of understanding, values and even identity. The latter view is present in several of the subject curricula, very clearly, for instance, in the curriculum for Norwegian, which opens by defining the subject Norwegian as a subject for "understanding culture and for communication". The view here, and also in several

other subject curricula, is that children and young people become participants in culture and society through active use of language. In fact, the central (and politically dictated) concept of *competences* suggests a social communication theory, as well: knowledge has to be communicated to others to be accepted as knowledge (and assessed as competence).

A Vygotskyan view of learning and language can also be identified in the document in many places, for instance in natural science: "This includes the ability to formulate questions and hypotheses and to use natural science terms and concepts." In mathematics it is particularly clear that doing and thinking mathematics is closely linked to the subject language of mathematics:

> *Being able to express oneself in writing* in the mathematics subject means solving problems by means of mathematics, describing a process of thinking and explaining discoveries and ideas; one makes drawings, sketches, figures, tables and graphs. Furthermore, mathematical symbols and the formal subject language are used.

Indeed, these subject curricula seem to take it for granted that learning a subject means learning the language and the genres of that subject (cf. Halliday & Martin 1993, Lemke date to be added later)

On the other hand, there are also examples in all subjects of a view of language as nothing more than a medium for information, where 'knowledge' is something that exists before language. This may be the case in the many aims where pupils are expected to 'tell about' or 'describe' something in the physical world or in history.

The subject curriculum for Norwegian explicitly introduces a very wide definition of *text*, including oral utterances and multimodal artefacts, but this wide understanding of text is not necessarily shared by the other subject curricula.

On the whole, it seems correct to say that the way the 2006 national curriculum is written, with competence aims based on verbs, focusing on the demonstration of competence through various activities, implies a functional and sociocultural view of communication rather than a cognitive one. On the whole, the emphasis is on language in use. Genres are more often implied than directly required, as when children in natural science are expected to "argue for appropriate behaviour in nature" (implying some sort of argumentative genre) or "describe in general terms the structure of the human body, and the functions of some internal organs". There are many examples of this functional view of genre in the curriculum for Norwegian, as well, but at the same time genres in the subject Norwegian are foregrounded as such more than in other subjects, allowing maybe a more formalistic view of genre.

References

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5. CONCLUSIONS

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5.1 Purposes

The general purpose of this paper is to contribute to the evolution of thinking about the development of a 'framework' at European level for the languages used as media of instruction, whether national languages (e.g. Italian in Italy, Bulgarian in Bulgaria) or minority and regional languages (such as German in some schools in Northern Italy, or Slovene in some schools in Austria). These languages have the function of being media for all learning – labelled 'Language Across the Curriculum' – and the function of being a subject in their own right in the curriculum – which we call 'Language as Subject'.

The need for a framework similar to the existing *Common European Framework of Reference for Languages (CEFR)* – which is focused on foreign languages – has been agreed in principle at the first Council of Europe forum on this topic in November 2006.

It may be worth reminding ourselves however what the function of the *CEFR* is, as stated on its first page:

> The Common European Framework (for FLs) provides a common basis for the elaboration of language syllabuses, curriculum guidelines, examinations, textbooks, etc. across Europe. (….) The Common European Framework is intended to overcome the barriers to communication among professionals working in the field of modern languages arising from the different educational systems in Europe. (….)

This might be called the 'European' function, bringing together professionals and making the most of the wealth of experience to the greater benefit of all. There is also a specific purpose which is written with the potential for enhancing mobility of the population, as workers and citizens, and their mutual understanding:

> By providing a common basis for the explicit description of objectives, content and methods, the Framework will enhance the transparency of courses, syllabuses and qualifications, thus promoting international co-operation in the field of modern languages. The provision of objective criteria for describing language proficiency will facilitate the mutual recognition of qualifications gained in different learning contexts, and accordingly will aid European mobility.
>
> (my emphasis)

Because of the focus on foreign languages, the emphasis is on interactions among people – professionals and others – from different countries or member States of the Council of Europe, e.g. in their identities as 'Hungarian teachers of foreign languages' interacting with 'Greek teachers of foreign languages'.

In the present case of languages of schooling, there a similar need for cross-frontier interaction e.g. of 'Danish teachers of Danish' with 'Estonian teachers of Estonian'. There is also a second need, for teachers within frontiers to interact e.g. 'Norwegian teachers of Norwegian' with 'Norwegian teachers of mathematics (or history or science) through the medium of Norwegian'. Thirdly, teachers using language across the curriculum could be brought together, e.g. 'Bulgarian teachers of mathematics using Bulgarian' with 'Spanish teachers of mathematics[9].

[9] There is also a need for intra-national interaction among all teachers involved in language e.g. 'Polish

In addition to this purpose of providing a means for overcoming barriers of (professional) communication and allowing for mobility and mutual understanding among all Europeans, the new framework could have a second function. This would be to establish descriptions of the pre-requisites of communication competence (in linguistic and other semiotic systems) which are expected / assumed at given stages in compulsory education by teachers of all subjects (or subject areas). In other words, what linguistic and semiotic competence is required at point X in the education system if pupils are to be successful in the following years of education? More specifically, what linguistic and semiotic competence in subject Y is needed at point X if pupils are to be able to advance in their study of Y?

If a 'framework' were to do this, it could have several uses and benefits:

- it would define a minimum entitlement of all pupils: they would be entitled to instruction which enabled them to reach the minimum linguistic and semiotic competence required for further study from point X
- this would be of benefit to all pupils, but in particular those whose social position means they are linguistically disadvantaged; examples of this are all those for whom the medium of instruction is a second language or a variety of the language which is alien to them, and for this reason do not progress as quickly as others
- it would also benefit pupils entering an education system after the beginning of schooling – for example the children of immigrants – who may have the disadvantage of a different linguistic competence and of needing to enter a new education system with new modes of learning.

The 'framework' could fill this function in two ways:

- by describing in detail and for international use, the linguistic and semiotic minimum entitlement needed after, say, Grade 5 (approximately the beginning of subject-oriented teaching as opposed to the modes of teaching and learning we have described as 'primary') and at the end of compulsory education as pupils move into some kind of further education or employment
- by describing and explaining how such minimum entitlements can be devised for each specific national (or other e.g. 'Land' in Germany) level of education, in such a way that there is transparency and possibility of comparison among systems.

In order to consider the feasibility and desirability of a framework – especially with respect to the issue of minimum entitlement – this paper has presented descriptions of current approaches to describing the expectations and assumptions about linguistic and semiotic competence in three education systems at primary level, including the specific issue of what is expected at the end of primary education and, where possible, at the end of grade 2 of compulsory schooling.

Is there a need for a European framework to facilitate professional understanding across and within frontiers with respect to media of instruction? If so, does it seem feasible to develop one?

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teachers of Polish' and 'Polish teachers of mathematics through Polish' with 'Polish teachers of foreign and second languages'. This will mean the bring together of two 'frameworks'.

5.2. Existing commonalities

5.2.1 The fact that the three cases show that education systems and those who direct them are clearly concerned about language and about language competence as an integral part of all learning, suggests that there is a general desire to improve understanding and action with respect to 'language across the curriculum', language as a medium of instruction. It is also clear, although not as much emphasised, that curriculum developers are aware of the importance of competence in other semiotic systems.

In all three cases there is evidence of an interest in the issues, even though it is a recent interest, as evident from the fact that the issues have been introduced in the curriculum of 2005 in France, where it is the great innovation, in the five basic skills of the 2006 curriculum in Norway and in the new standards set by the KMK in Germany in 2004 and realised in the curriculum for Saxony-Anhalt.

Second, all three cases show that, as well as a general awareness of and general statements about the importance of language in learning, there are attempts to describe competences specifically for each subject of the curriculum, especially at the end of primary education, as specific subjects become more visible and more technical. There is also evidence of awareness that these specific competences begin earlier.

Third, in addition to the specific competences there is evidence of awareness of the importance of considering transversal competences needed in all learning activities in the classroom, and in the French case this is formulated in terms of transversal domains to which special attention must be given. The specification of time to be devoted to transversal domains is the approach taken to ensuring that these are taken seriously.

All this suggests that there is fertile ground for creating a common understanding of 'Language Across the Curriculum' matters.

5.2.2 When we consider the details of curricula, we find some common ground here too. Consider the specific competences from our Norwegian and French cases for natural science. In Norway, the examples given above and repeated here for convenience are:

- use natural science terms (1) to describe and present his or her own observations in various ways
- collect and systematise data and present the results with and without digital aids (2)
- tell others about animals and *discuss what is good animal welfare*
- *argue for appropriate behaviour in nature*
- talk about the development of the human body from conception to adulthood
- describe in general terms the structure of the human body, and the functions of some internal organs
- find information with and without digital tools and tell others about some of the planets in our solar system

In France, we find in the list of competences (presented in the appendix), for 'sciences expérimentales et technologie'[10]:

Parler:

- utiliser le lexique spécifique (1) des sciences dans les différentes situations didactiques mises en jeu

- formuler des questions pertinentes

- participer activement à un débat argumenté pour élaborer des conaissances scientifiques en en respectant les contraintes (raisonnement rigoureux, examen critique des faits constatés, précision des formulations, etc.)

- utiliser à bon escient les connecteurs logiques dans le cadre d'un raisonemment rigoureux

- désigner les principaux éléments informatiques

Lire

- lire et comprendre un ouvrage documentaire, de niveau adapté, portant sur l'un des thémes au programme

- trouver sur l'internet des informations scientifiques simples, les apprécier de manière critique et les comprendre

- traiter une information complexe comprenant du texte, des images, des schémas, des tableaux etc

Ecrire

- prendre des notes lors d'une observation, d'une experience, d'une enquête, d'une visite

- rédiger avec l'aide du maître un compte rendu d'expérience ou d'observation (texte à statut scientifique (2)

- rédiger un texte pour communiquer des connaissances (texte à statut documentaire)

- produire, créer, modifier et exploiter un document à l'aide d'un logiciel de trraitement de texte

- communiquer au moyen d'une messagerie électronique

There are some similarities here and some differences, in addition to those caused by linking science with technology. For example the elements highlighted and numbered are comparable. However in the Norwegian document there is reference to content as well as linguistic competence and to the moral dimension – highlighted in italics, and in the French document there is explicit reference to critical use of the internet. A fuller analysis would need to include the full text from the Norwegian documents as this is only an extract.

5.2.3 In all three cases, the authors have provided, within the constraints of space, an account of the linguistic theories of communication which seem to be present in the documents. The underlying question is whether in these countries and others, there is sufficient common theoretical ground on which to build cooperation and understanding. If there are substantial differences in the ways in which people are thinking about language and curriculum, language and learning, then analysis may

[10] It is worth noting the difference in the name given to what is in English usually called simply 'science' but it would take us too far here to analyse the significance of this. It makes us aware however of different conceptualisations of subjects in different countries – see also the concept of 'Sachunterricht' in Germany – which cannot be ignored in the developments at a European level.

show superficial similarities, and yet full mutual understanding is inhibited. This is all the more the case if those who talk about curricula are not aware of their language theories.

In the French and Norwegian cases, there is reference to sociocultural and constructivist notions of language and learning, citing both Vygotsky (in both cases) and Bruner. Language is seen in the French case as a means of communication and as a means of acquiring knowledge, and this is echoed in the Norwegian case by the apparent assumption that 'learning a subject means learning the language of this subject'.

The emphasis on communication and appropriateness, together with identification of specific communicative functions is strong in the German case, where however there is no clear indication of theory of language and communication which is specific to the acquisition of subject knowledge such as mathematics. On the other hand there is reference to the ability to decenter, 'to take different roles in conversations', and to analyse language use critically.

The question arises in the Norwegian case as to whether there is a harmonious theory of language and communication in the different documents. There seems to have been no attempt to harmonise different inputs at different points in the curriculum development process in Norway. In the French case, there appears to be greater harmony because of the directing influence of a ministry-appointed group of experts.

Without more detailed analysis, it would be unwise to make further comparisons but the case studies raise some preliminary points which might be asked of any curriculum and which might be the focus of discussion in a framework:

- the distinction between language for communication – about knowledge acquired – and language for knowledge acquisition
- the distinction between language as a means of 'describing' an 'objective world' and language as the means of 'constructing' the world in the acquisition of knowledge of it
- the general functions of communication – such as describing, persuading, arguing, expressing opinion – and the discourse of particular subjects, using the genres which are specific to subjects.

What this preliminary comparison suggests above all is the necessity of considering the language and communication theories – and semiotic theories in general – which are current in European education systems. One of the major contributions of the *CEFR* for foreign languages was to present a theory of language and communication which became the common basis for development of curricula and all that goes with them. It may well be a more complex process for language across the curriculum and language as subject.

5.3 The potential additional value of a European 'framework'

This brief comparison of the three cases thus shows that there is, not surprisingly, variation in approach and this would suggest that a European 'framework' could bring together professionals for mutual benefit.

At the moment there is little evidence in the case study countries of a minimum entitlement conceptualisation of linguistic competence, except in the very general terms of description of '*compétences devant être acquises en fin de cycle*' in the French document. This is nonetheless an indication of an interest in the notion of a threshold at the end of a specific period which could be linked to a more explicit discussion of minimum entitlement

An analysis of documents from other countries would be needed to confirm whether this is a widespread concern, but even if it were not a European document could provide the means for discussing the issues in a transparent and coherent way.