A HANDBOOK
FOR CURRICULUM DEVELOPMENT
AND TEACHER TRAINING
**THE LANGUAGE DIMENSION
IN ALL SUBJECTS**

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Francis Goullier
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Helmut Vollmer
with contributions by Joseph Sheils

COUNCIL OF EUROPE

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Preface

Mastering the language of schooling is essential for learners to develop the skills necessary for school success and for critical thinking. It is fundamental for participation in democratic societies, and for social inclusion and cohesion.

This handbook is a valuable resource for education authorities and practitioners in Council of Europe member states. It will help them to reflect on their policy and practice in language education, and support them in developing responses to the current challenges of education systems.

It has a strong practical orientation, but it also embodies key principles and values of the Council of Europe. It emerges directly from two recent recommendations of the Committee of Ministers. Recommendation CM/Rec(2012)13 of the Committee of Ministers to member States on ensuring quality education emphasises the importance of preventing underachievement and draws attention to the key role of language in ensuring fairness in access to knowledge. Recommendation CM/Rec(2014)5 of the Committee of Ministers to member States on the importance of competences in the language(s) of schooling for equity and quality in education and for educational success highlights the importance of language not just as a separate subject in school, but in all subjects across the curriculum.

The recommendations and proposed measures in the handbook will support education policy makers and professionals in their efforts to support migrant children as well as native speakers who may be at a disadvantage, and will contribute to raising the quality of education for all learners.

I invite education policy deciders in our member states to raise awareness concerning the language dimension in all school subjects and to support all professionals in charge of education in making this dimension explicit and transparent in curricula and in the whole teaching process. This will contribute to ensuring equity and quality in our education systems.

Snežana Samardžić-Marković

Director General of Democracy

Council of Europe

Introduction

In April 2014, the Committee of Ministers of the Council of Europe passed Recommendation CM/Rec(2014)5 on the importance of competences in the language(s) of schooling for equity and quality in education and for educational success.[1] One of the key principles in the recommendation highlights the importance of language not just as a separate subject in school, but in all subjects across the curriculum. This is an aspect of language education that presents a particular challenge for policy makers and practitioners, since it requires new insights and a whole-school, cross-curricular perspective. This handbook has been written, therefore, to support the implementation of the principles and measures set out in Recommendation CM/Rec(2014)5. It aims to show why language is important in all subjects, and what the implications are for policy and practice.

The handbook builds on and enriches the work of the Language Policy Unit's Languages of Schooling project carried out under the aegis of the Steering Committee for Educational Policy and Practice of the Council of Europe. The committee has recognised that the acquisition of competences in language is an essential foundation both for success in school and for participation in modern democratic and diverse knowledge societies. The Languages of Schooling project has sought to underpin that principle and explore its practical implications with a series of seminars, conferences and publications. A rich variety of studies and conference papers arising from this work are available on "A platform of resources and references for plurilingual and intercultural education".[2] However, it was thought that a handbook that could stand as a publication in its own right would be a useful addition. Each chapter contains references linking to sections of the platform where particular issues are treated in greater depth.

The handbook is primarily addressed to those responsible for curriculum development, the development of pedagogical material and teacher education, whether working at national or school level. It is also relevant for teachers who have a particular interest in deepening their understanding of the importance of language. The handbook has a practical orientation but it is not a "manual", in that it is not intended as a "how to" book with a list of prescribed activities. It does, however, seek to clarify the basic insights and principles underlying the need for support in language education in all subjects. The implementation of policy and practice related to language education requires not just a mechanical application of rules, but an understanding and awareness of what is appropriate in particular situations as determined by the context. The intention, therefore, is to raise awareness and develop understanding of the issues that have implications for practice and, above all, to influence practice at national and school level. In order to enhance the practical value of the handbook, each chapter contains illustrative material, and appendices have been included to provide further material to aid reflection. The handbook is not intended as an academic text, but it does offer some theoretical perspectives and an underlying rationale. These are essential because the importance of language in all subjects can easily be misinterpreted and met with opposition if not fully understood. This is one of the challenges faced by policy makers. For example, the idea that language is important in all subjects can easily be reduced to a focus on the more superficial aspects of spelling and grammar. While these are important, they represent only one aspect of what language education entails. Subject teachers may argue that a focus on language will distract from their main responsibility for teaching their subject. This line of argument tends to arise if

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1. Recommendation CM/Rec(2014)5 of the Committee of Ministers to the member states of the Council of Europe: www.coe.int/cm ("Adopted texts").
2. www.coe.int/lang-platform ("Languages of schooling/Language as subject and Language(s) in other subjects").

the implications of the relationship between language and cognition are not fully recognised; attention to language in the subject classroom will not only improve the pupils' competence in subject-based as well as general language use, but will also help deepen their understanding of the subject matter and their wider learning in the subject. It is sometimes argued that a focus on language in all subjects is important for high-achieving pupils, but less significant for those who are pursuing less academic goals. This view underestimates both the role of language in all learning and the importance of competence in language for full participation in a democratic, knowledge society. By acquiring the language of a subject and reflecting on it consciously, all learners, independent of their background, will master the content and accompanying tasks more successfully.

The misunderstanding that the importance of language in all subjects is more significant for high-achieving pupils may arise from the use of the term "academic language". This term is widely used now in education to refer to the language characteristics of school subjects and the aspects of language proficiency that are valued and required by the school. These go beyond the spontaneous and generally informal language used in the everyday social life of most pupils. The specific competences that need to be mastered for successful knowledge building are often unfamiliar to many pupils before they enter school. These may not be made sufficiently explicit, giving rise to a "hidden curriculum" that makes the linguistic challenge posed by the school even more demanding. This is an issue for all learners, but particularly for those from socially disadvantaged backgrounds, or whose home language is different from the main language of schooling. Recognition of the importance of academic language is not elitist but, on the contrary, is rather an essential aspect of working towards equity in educational outcomes. Academic language provides access to more differentiated ways of thinking and expression.

Deciding on what terminology to use in this handbook was a challenge and the subject of much discussion for the authors. The term "language of schooling" is widely used to describe the dominant language of instruction in school, which is normally the main national or regional language. The plural "language(s)" is sometimes used to show that in some contexts, more than one language is used for this purpose. However, the term "language of schooling" is also employed by some writers to refer to those uses of language that are particularly important for learning in subjects. In this handbook, we have adopted the term "academic language" for this purpose and kept "language of schooling" as the more general term for describing the language used in teaching a subject. We adopted the term "academic language", despite its potential for ambiguity, because it is now so widely used in educational writing about language education. Decisions on other terms were more problematic. One of the central arguments of this handbook is that it is necessary to break down the general concept "language" into more refined categories in order to support classroom teaching. However, terms like "form", "function", "genres", "domains" and "text types" are often the subject of dispute in academic literature and have different connotations among linguists and literary theorists, depending on their tradition or context. There was the further complication that this handbook will be published in two languages and is likely to be translated into more languages. The intention therefore has been to keep the use of categories and specialist terminology to a minimum and not to get involved in the various disputes about the use of the terms. In most cases, the meaning will be clear from the context.

The handbook moreover does not aim to be comprehensive, for that would make it too long and run the risk of making it inaccessible. For example, the issue of sign language is not addressed, but it is acknowledged that this could well feature in the language policy of a school. Also, the impact of digital technology and other "new literacies" on pupils' language use is not dealt with separately, although the importance of this area of research is recognised. The handbook has been written to support policy implementation and teacher development with compulsory schooling in mind, and the content has been selected accordingly. A number of issues are addressed transversally rather than in separate chapters. For example, the importance of quality education features in many of the chapters, as do the needs of vulnerable learners. We are aware that language educa-tion is not the only factor in ensuring quality in schools: teaching expertise, resources, socio-cultural context and a host of other influences are also relevant. However, language education is of the utmost importance, is closely related to some of the other factors, and is often not sufficiently addressed. A further reading section has been provided in Appendix 2 so that readers can pursue particular issues in more depth.

As the handbook emphasises, teachers of all subjects have to be aware of the challenges posed by the need to support pupils in mastering the specific language competences that their school disciplines demand. For this reason much of the document is devoted to examining and illustrating possible ways in which teachers can provide language-sensitive subject teaching, offering pupils specific forms of support in acquiring the general "academic" and the subject-specific or "scientific" language characteristic of their school subjects. Teachers in schools are already subject to heavy demands. However, a focus on language does not have to be an additional responsibility, but is rather a re-focusing of subject teaching to make it more effective and

even more enjoyable. The thematic chapters contribute in different but complementary ways to analysing competences in the language of schooling, approaches to language in and across the curriculum, and teaching/learning factors that can support learners in acquiring "subject literacy".

Although the handbook can be read as linear text, some readers may wish to focus on particular sections that are more relevant to their concerns. For that reason, some of the key principles have been reiterated in several chapters, although the intention has been to avoid too much repetition.

Chapter 1, in recalling the guiding principles underpinning Recommendation CM/Rec(2014)5, highlights the importance of competences in the language of schooling not only for school success, but also for equity and quality in education. It introduces basic concepts and issues, and summarises the implications for curriculum development and implementation. The chapter emphasises that language education must always be viewed in relation to values.

Chapter 2 addresses the role of language in knowledge building, and the relationship between language and cognition. This is one of the key perspectives underlying the importance of language in all subjects. Subject teachers need to be aware of the different functions that language can perform that are both cognitive and linguistic in nature. The concept of "subject literacy", as a useful term for describing the broad goals of subject learning, is also addressed.

Chapter 3 examines the different forms that language takes in classroom communication and how these relate to learning in subjects. These will be largely familiar to readers but examining them specifically from a language perspective offers new insights and makes them less likely to be taken for granted, for they are not all equivalent in terms of their role in knowledge acquisition.

Chapter 4 examines what is practically involved in acquiring academic language and the importance of the role of teachers in providing support or "scaffolding" so that pupils can progress from ordinary, everyday forms of expression to those that are knowledge-related. This will involve, for example, building bridges between familiar genres and those that help to generalise insights and knowledge beyond immediate experience or observation.

Chapter 5 looks in more detail at the issues raised by language diversity in schools. This can have a positive or negative impact on pupils' performance, depending on a number of factors that are explored in the chapter. The types of provision that can be made for students who have limited proficiency in the language of schooling are also examined, including for the development of academic literacy.

Chapter 6 addresses the importance of the language of schooling at primary level. It stresses the importance of including language objectives when planning the curriculum. This is particularly important for pupils who are not native speakers of the language of schooling. Pupils at primary level need to be helped to move from a focus on self to a more decentred use of language, for example from narrative to reporting, but also from informal to more formal uses of language.

Chapter 7 examines the role of language as subject when it is accepted that language is central to all subjects. Although it should not be seen simply as a "service" subject, language as subject does have a special role in language education. The importance of a school language policy is emphasised as a focus for sharing approaches across the curriculum.

Chapter 8 examines the language requirements specific to subjects. These are quite complex and varied, and depend in part on how the subject's aims are conceived. The chapter also addresses, through examples, the importance of scaffolding language in the classroom, and offers considerations for further research.

Chapter 9 describes some practical implications of being "language sensitive" in the subject classroom. Attention is also drawn to the importance of creating a supportive classroom culture (as opposed to simply employing particular methodologies or techniques) that develops openness and curiosity towards language, and encourages the development of language strategies within and beyond content learning.

Chapter 10 addresses the need for a curriculum in which goals for subject-based language learning are spelled out explicitly. Different approaches are possible, as seen in various examples that have been tried out or that are in the process of being implemented. This leads to a general discussion of the various approaches to curriculum development and implementation with some of their advantages and limitations. It is argued that language competences as part of subject teaching and learning have to be identified and made transparent whatever the educational context may be.

Chapter 11 stresses the importance of teacher training as crucial for perceiving and integrating the language dimension into content teaching. Various implementation strategies are discussed: integrating the language

dimension into the continuous professional development of teachers, establishing a system of literacy coaches and encouraging schools to develop a language-sensitive culture of content teaching, and learning across disciplinary boundaries through sharing and co-operation among teachers.

Chapter 12 argues that the pursuit of quality in education means that the quality of educational provision overall, including measures to promote inclusion and equity, need to be evaluated, in addition to evaluation of the curriculum and learning outcomes. Making an overall assessment of a form of education is a necessary though complex undertaking.

The conclusion provides a brief overview of the central arguments in the handbook, with a call to readers to respond to its challenges and suggestions.

Chapter 1
The language dimension in all subjects: an important issue for quality and equity in education

The Council of Europe project on "Languages in and for education" has led to many important insights and results that are presented on "A platform of resources and references for plurilingual and intercultural education". As outlined in the introduction, this handbook aims to draw on and extend that work, and present it in a more systematic way. The language dimension is of the utmost importance for all levels of school learning, but it is particularly important for learning in all subjects. It is on this very subject-specific level that key issues related to quality and equity in education can either be resolved (in concrete terms) or will continue to exist.

In addition to the Recommendation CM/Rec(2014)5 of the Committee of Ministers on the importance of competences in the language(s) of schooling for equity and quality in education and for educational success (see Appendix 1), a number of studies at national, regional and international level also highlight the importance of competence in the language of schooling, not only for school success, but for equity and quality in education. For example, assessments by the Organisation for Economic Co-operation and Development (OECD), policy documents by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and programmes supported by the European Commission agree that the acquisition by learners of proficiency in the language of schooling represents a major asset for learners themselves, for the education system, for social cohesion and for the future of our societies. The importance of the language of schooling is thus widely recognised but, as pointed out in the introduction, because "language of schooling", as other terms, tends to be used in different ways, it needs further explanation. This chapter will introduce some of the key terms and concepts that are central to the argument of this handbook. It will also outline some of the implications for teaching and curriculum, and highlight the importance of competence in language for equity and quality of education. All of these arguments will be developed further in subsequent chapters of the handbook.

1.1.   THE LANGUAGE OF SCHOOLING – ACADEMIC LANGUAGE USE

The term "language of schooling" is widely used to describe the dominant (sometimes only) national or minority/regional language used in the classroom for teaching. "Language of instruction" is often used for the same purpose, although some object to this term on the grounds that it implies a narrow, "transmission view" of what teaching entails. Contemporary societies are, in most cases, multicultural with increasing complexity as a consequence of mobility and migration. This presents a considerable challenge for schools, because the main language used for teaching and learning is very often not the first or home language of many of the pupils. To say that it is important for pupils to develop competence in the language of schooling or language of instruction is clearly self-evident. Pupils need sufficient competence in the language of schooling to be able to understand and participate in lessons. Even if more than one language is used as the main language(s) of schooling, it is likely that a number of pupils will still not be using their first or home language for learning purposes. They may underachieve, not because of any lack of ability, but because of their difficulties with the language of schooling. This is an important issue, and education systems and schools take different approaches to supporting pupils who struggle with the language of schooling. Children of families that have recently arrived in a country where the language used by the majority is different from their own may be provided with the linguistic support needed to acquire communicative competences in the language of the host country (this will be dealt with more fully in Chapter 5). However, there is another aspect of competence in the language of schooling that is just as important but far less obvious, and thus easily overlooked.

Pupils need to be able to use language not just for social and informal purposes but also to learn content, to express their understanding and to interact with others about the meaning and implications of what they learn. This requires a level of competence in what has been called "academic language". This is another aspect of the "language of schooling": it refers not just to different regional or national languages used in school, but to a type of language use that is more specialised and formal, needed for thinking, for forming and comparing ideas. Pupils for whom their first language is the language of schooling may still not be equipped to deal with the language demands placed on them by the school and specifically by learning in the different subjects. This challenge is often seen as a matter of acquiring new specialist vocabulary (for example in science: "electrolysis", "ion", "neutron"; in literature: "irony", "imagery", "tragedy"). Subject syllabuses invariably refer to concepts that pupils must assimilate. Most teaching materials also accord a place to the vocabulary corresponding to these concepts and draw the attention of both teachers and learners to the importance of grasping and memorising the meaning of the terms necessary for describing and handling subject-specific knowledge. Undoubtedly, being able to use new words appropriately is an important aspect of learning a subject and can cause problems for the learner. The precise meanings may require considerable technical knowledge, and the new terms may already have established meanings in everyday use (for example "positive", "conduct", "energy"). The challenge that new terminology presents to pupils in learning subjects needs to be acknowledged, but it is only one aspect of what mastering academic language entails. In fact, it could be argued that subject-specific vocabulary and terminology are not the most challenging aspect for learners.

The term "mastering academic language" by itself is rather too general and needs to be broken down into finer distinctions and narrower categories in order to reveal its different aspects and indicate the challenges these present for learners. These categories in turn have implications for policy and practice. Although the term "academic language" can apply to both oral and written texts, the first and most basic distinction is between oral and written language. Spoken language is usually highly contextualised, often makes use of non-verbal clues to support meaning, and can make use of incomplete and less precisely structured formulations. Written language, on the other hand, is usually more distant from the potential audience and needs to be more carefully structured and precise. Of course, oral language can, in some cases, be more formal, as in a presentation or the "reading" of the news on the radio, just as writing can be informal and conversational, as in e-mails and text messages. However, when the difference between spoken and written language is not sufficiently acknowledged, reading and writing may not be given enough support in the subject classroom because it is assumed that pupils will acquire competence in these areas as easily as they do in conversational speaking and listening. The tacit assumption is that because pupils can engage in general classroom talk about subject content, they will be able to make the transfer to understanding/decoding complex texts or writing without further help. While oral communication in the classroom is extremely important for helping pupils to use their prior knowledge and negotiate the meaning of new concepts, they are usually obliged to formulate the newly acquired knowledge in increasingly articulated, coherent and abstract forms and eventually in (explicit) writing.

A second important category related to academic language use is that of "genre". As indicated in the introduction, this term has been the subject of dispute in academic literature, with different connotations depending on the tradition or context. For the purposes of this handbook, the various debates are less important than establishing how the term "genre" might be useful in helping pupils master academic language, and in helping teachers know how to adapt their teaching. When pupils are asked to write up an account of a lesson (such as a science experiment, a field visit for geography, or a drama presentation in language as subject), they may be left confused if no further information is provided on the type/category of writing they are meant to use, for instance a report, log or personal reflection. The term "genre" as used in this handbook is useful in this context because it directs attention to the type/category of writing that is required; it points to the fact that certain texts share common features and can thus be grouped together. This is beneficial for subject teachers because it can assist them in setting a writing or an oral task with more detail of what is required, and in determining what kind of help pupils might require to complete it. It also helps the pupils themselves develop knowledge about what type of writing is needed in different contexts. Such knowledge is also important when approaching reading, because it helps to know what type of text is being dealt with in order to understand how to engage with it. For example, a different emphasis in reading strategies may be helpful when faced with a magazine article (browsing, reading visual clues) or a technical report (engaging prior knowledge, using knowledge of the likely structure, focusing on detail). The factors that determine groupings of texts are not confined to the forms that are "internal" to the text itself, such as vocabulary and grammar (for example a report tends to be written in the third person), but also draw on factors that are more "external" and contextual such as purpose and audience. Thus if the intention in writing the text is to describe, argue or persuade, this will influence the way it is structured and the choice of language.

Alongside "genre", the use of the term "text" is important in this context. It highlights the fact that a body of oral or written output should be considered as a whole and not just in terms of its constituent parts. Language may be considered at word level (spelling and vocabulary) or sentence level (grammar and punctuation) but it is when it is considered as a text that notions like context, meaning, purpose and deep understanding come more into play. When subject teachers are asked to give due consideration to language in their teaching, it may be tempting for them to assume that this requires them to acquire technical linguistic knowledge that is outside their specialisation. However, language at text level requires less specialised knowledge about forms of language but more focus on function, that is how language is used in particular contexts.

Language needs to be viewed not just as a system but also as "discourse". This term places emphasis on the use of language and its different functions; it draws attention to the living, dynamic nature of language and the way it creates meaning in social contexts. By drawing attention to aspects of language not just as system (for example rules of grammar) but also as discourse (for example, what is the writer aiming to achieve in this text? How does the writer achieve those goals?), subject teachers can be helped to see the close relationship between understanding of subject content and language use.

The role of language in knowledge building, and the relationship between language and thinking is central to the importance of language in all subjects and is dealt with in detail in Chapter 2. The purpose here is to introduce the key term "cognitive-linguistic function", which signals the close relationship between cognition and language. In the subject classroom, pupils will engage in activities such as explaining, arguing, hypothesising, comparing, etc. These types of activities are central to learning and understanding in any subject, and clearly require pupils to think. However, at the same time they do require pupils to use language in particular ways in order to express their intention, for example describing as opposed to explaining, comparing or hypothesising. These macro functions underlie all communication, including the highly subject-specific forms of expression or meaning-making.

The argument of this handbook is that all schoolteachers will be better able to help their pupils learn and understand subject content if they are able to provide support for them based on recognising the language dimension of the subject. This means, in part, helping them to distinguish between written and oral modes, and to gain command of genres and of cognitive-linguistic functions.

Teaching subject matter more successfully requires a focus on the language that mediates and transports meaning. It requires conscious and detailed planning on the part of the subject teacher in order to ensure that all children acquire the linguistic skills and competences necessary for understanding the relevant topics.

An examination of teaching materials in Figure 1.1 and Figure 1.2 illustrates the challenge presented by academic language.

Figure 1.1: Learning to solve a problem[3]

Learning to solve a problem	Solution (extract from the textbook)
David drew this diagram of the electrical circuit he had just set up. 1. Reproduce the wiring diagram and indicate the direction of the current in each branch. 2. State which lamps are traversed by currents of the same intensity. 3. In which lamp(s) is the current intensity greatest?	2. Lamps L_1 and L_5 are both located on the main circuit (containing the power source). Since components connected in series all carry the same current, L_1 and L_5 are traversed by currents of the same intensity I_1. Similarly, lamps L_2 and L_4, both situated on the same branch circuit, are traversed by currents of the same intensity I_2. 3. The current intensity in the main circuit is equal to the sum of the current intensities in the branch circuit; $I_1 = I_2 + I_3$; consequently, the intensity is greatest in the main circuit and in lamps L_1 and L_5.

3. *Source*: Durandeau J.-P. et al. (2007), *Physique Chimie* 4ème, Hachette, Paris, p. 88.

The linguistic difficulty in the exercise above does not just lie in the few subject-specific terms (for example "branch circuit", "current"). Rather, it is related to the genre the pupils are expected to provide their answers in. They are expected to provide an exhaustive account of all stages in their reasoning, and this requires them to draw on language that goes beyond ordinary, everyday use. Another feature of the text presented here as a model answer is that it is in the form of an argument satisfying precise formal requirements as to how the information should be set out. The title of this exercise, "Learning to solve a problem", could equally well be rephrased as "Learning to formulate an answer". The reasoning process in the answers is demonstrated by words like "since", showing the making of an inference; "similarly", showing the drawing of a comparison; and "consequently", showing the forming of a conclusion. It is easy to see that the reasoning process required in the written answer is dependent on the pupils having sufficient command of the appropriate language.

The form of production expected in the following exercise is quite different. Pupils are asked to prepare an oral presentation on the basis of the information set out below. The relationship between comprehension of the facts described and the way in which they are presented is subject to specific constraints that are different from those present in the previous example.

Figure 1.2: Explaining a visual representation in words[4]
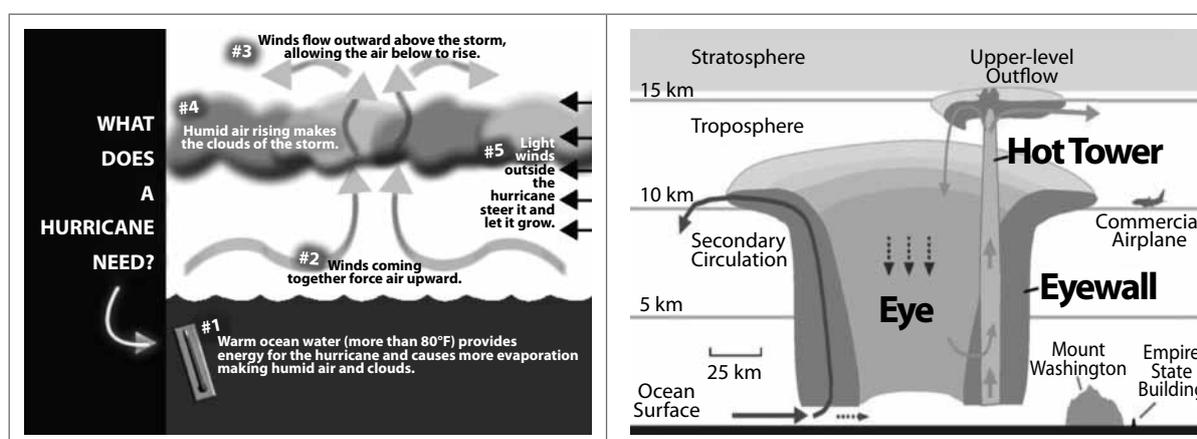
In this activity, pupils are asked to verbally explain the formation and workings of a hurricane on the basis of the two figures and their own research. Learners are required to be able to decode the visual and verbal information provided, and to understand certain specialised terms (for example "humid", "stratosphere", "outflow"). Above all, they are required to be able to present their explanation orally, permitting a suitable, coherent description of the phenomena concerned and taking account of the prior knowledge and expectations of those listening, while satisfying the formal requirements of such a presentation. The genre-specific knowledge expected to prepare such a presentation, as well as the concrete linguistic means that might be used to form it, are often not explicitly conveyed. Rather, it is assumed that pupils somehow already possess these means or are aware of how to acquire them on their own.

If teachers are not sufficiently aware of the specific nature of the language they use and the demands they are placing on pupils, they are unlikely to provide any necessary assistance to them. This failure to support pupils in their gradual appropriation of the language dimension of subjects runs counter to one of the basic principles of teaching, namely that one can only talk or write about what has been understood, and evaluate what has been taught. Furthermore, it deprives a considerable number of pupils of the guidance and learning experience that would enable them to derive greater benefit from learning opportunities. It has to be understood that the development of literacy in each and every learner is not an abstract demand or perspective, but is part of subject teaching itself, that is, subject literacy is an indispensable goal for each subject. This is so much more than the acquisition of basic, subject-related skills – subject literacy helps learners become knowledgeable in a field of study, become acquainted with its thinking and language conventions, and identify the contribution of the subject to society (see also Chapter 2).

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4. *Source*: Weather Wiz Kids, www.weatherwizkids.com/Hurricane_formation.gif; www.nasa.gov/centers/goddard/images/content/138612main_okelley_graph_lg.jpg.

1.2.   PREPARING AND QUALIFYING FOR THE KNOWLEDGE SOCIETY

Educational decision makers have a responsibility to tackle the issue of language and accord it its rightful place in education policy. Certainly curricula should clearly specify the language requirements on which the learner's future acquisition of subject-specific knowledge and competences will be partly dependent. Identification of the language dimension in and across subjects necessarily depends on the different educational contexts. The procedures employed should, accordingly, take the form best suited to the functioning of each learning system. Furthermore, the forms taken by the curriculum in these different contexts may vary considerably.

The measures set out in Recommendation CM/Rec(2014)5 principally concern:

▸ educational content and programmes in the various school subjects: making explicit the specific linguistic norms and competences that learners must master; highlighting, in programmes, convergences in the linguistic dimensions of the various subjects; bearing in mind the cross-cutting effect that learning of the language of schooling as a school subject has on all learning processes conducted in that language;

▸ learning modalities: exposing learners to diversified learning situations in order to develop their cognitive and linguistic capacities;

▸ school textbooks: encouraging authors to ensure that such materials explicitly take account of the linguistic dimensions of the different subjects;

▸ processes of diagnosis and assessment: verifying at regular intervals, and in particular between different stages of education, the ability of learners to master those aspects of the language of schooling required at different stages of education; anticipating, for each subject, the kinds of competences in the language of schooling that will be required in assessments with a view to preparing pupils for them;

▸ provision of appropriate forms of support;

▸ increased awareness of the role that can be played by the diversified linguistic resources available to learners in facilitating their access to knowledge;

▸ training for school management staff and teachers of all subjects to prepare them for their role in devising and implementing an overall school policy on the language of schooling and in providing, alongside subject-based content, teaching of the linguistic dimensions necessary for knowledge building.

In Europe, experience in managing changes to the education system has shown that, for these changes to be effectively implemented, the various curriculum stakeholders at all levels need to be mobilised and invited to take initiatives to ensure the coherence of the measures adopted, right down to classroom level. As indicated in Recommendation CM/Rec(2014)5, the areas of direct relevance include:

▸ teaching materials: authors and publishers should be made aware of the need to bring out the language dimension as subject matter for learning;

▸ teacher training: initial training should include provision for awareness raising concerning language, in a specific way for each discipline or in the form of interdisciplinary training schemes that underline the collective responsibility of the teaching team for ensuring everyone's educational success;

▸ the production, by educational bodies enjoying national or regional recognition, and the circulation among teachers, of documents establishing a link between teaching practices and the support required for mastery of the language dimension. The idea is not to place an additional burden on teachers but, on the contrary, to facilitate their teaching work;

▸ subject-based assessments, with particular attention to the importance of drawing implications from the links between subject-specific knowledge and mastery of the language dimension. The designers of both formative and summative assessments should consider and take due account of the linguistic knowledge and skills necessitated by the tasks set. Teachers should be able to prepare learners for this aspect of tests.

The diversity of the teaching received by pupils and of the social and school learning situations that they encounter in their school careers may also be perceived as a set of experiences that can contribute to the gradual acquisition of a more general, diversified command of language. Ideally, this diversity of learning opportunities should satisfy two requirements:

> ▶ it should be as broad as possible and curriculum stakeholders should co-ordinate their efforts to ensure that all learners have access to all situations that can facilitate a better command of language, including a diversity of texts encountered along their educational paths, a diversity of situations of oral and written expression and interaction, and a diversity of accessible forms of assistance;
> ▶ it should be the subject of reflection to identify differences and similarities, encouraging the transfer of linguistic skills and promoting increased awareness of the internal diversity of language and differentiated uses of language registers.

Learners all have linguistic resources that they should be able to use. These resources consist, in the first instance, of the learning experiences that they accumulate all along the learning path. These include courses in language(s) other than the language of schooling. These language courses also constitute experiences of the differentiated use of forms of communication. The search for convergences between the learning of other languages and skills in the language of schooling is undoubtedly a favourable context for reflection on language and languages. The many languages that are present in a school can also provide a valuable resource (see Chapter 5).

Over and above the specific needs and resources of some learners, the main issue facing education systems is how they can succeed, through a process of gradual enrichment, in facilitating the transition from (a) the language experience specific to the culture shared by young learners to (b) the practices and expectations of the school community.

The implementation of procedures to introduce policies on language education has to be tailored to the specific linguistic, cultural and educational features of each state or region. It can take the form of the inclusion of mastery of the language dimension in educational standards, in recommendations to teachers and head teachers, in the syllabus for each subject, and so on. To produce initiatives commensurate with the educational and policy issues at stake, it is necessary to give a clear and strongly marked direction to education policy. Only such a policy direction can ensure coherence of the different initiatives taken in terms of content, the timing of their implementation and ways of involving all stakeholders.

1.3. EQUITY AND QUALITY IN EDUCATION

Initiatives to foster mastery of the language dimension in all school subjects are consistent with a commitment to quality and equity in education that includes promoting inclusion, social cohesion and respect for pupils' linguistic and cultural repertoires. Preventing underachievement, striving for fairness in access to knowledge, developing critical thinking and the ability to effectively exercise democratic citizenship are all part of the search for quality in education, which was set as a goal in Recommendation CM/Rec(2012)13 of the Committee of Ministers to member States on ensuring quality education, adopted in December 2012.[5] The recommendation recognises that quality education should be inclusive, and draws attention to the importance of language as the basis of successful learning in all subjects.

As argued above, in order to succeed in school all learners need to be able to cope with the language demands placed on them by different subjects. Some of these are common across subjects, others are specific to the subject in question (this will be dealt with in more detail in Chapter 7). However, some pupils are better equipped than others to cope with these demands; pupils from more privileged homes may find it easier than others to acquire academic language because they may be accustomed to using more complex language in the home. Pupils from disadvantaged backgrounds may struggle to make the transition from everyday conversational language to the more sophisticated uses that are required for higher-order thinking. Other pupils are disadvantaged because they have to learn subjects at school in a language that is not their first language. Many pupils are doubly disadvantaged because the language being used to teach them is not their first language and takes a form they are not used to, and it can seem as though such pupils are less intelligent or just not good at the subject, but it is more a matter of being disadvantaged by the language.

In fact, such pupils may be further disadvantaged if the school, often with good intentions, takes steps to lower the language demands and, as a consequence, the intellectual challenge. Some pupils whose language competence is judged to be low may at worst be separated from the mainstream and given a diet of low-level activities (for instance filling in blank words on worksheets, matching words to pictures, underlining key words) that does not help them to develop their proficiency in different forms of academic writing. Subject

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5. Recommendation CM/Rec(2012)13 of the Committee of Ministers to the member states of the Council of Europe: www.coe.int/cm ("Adopted texts").

teachers may be tempted to avoid asking pupils to write coherent and extended prose because they know that pupils find this difficult, relying instead on extensive oral exchanges followed by low-level writing tasks like copying. The pedagogic solution lies in knowing how to balance appropriate challenges with the right kinds of support so that learners can be helped to succeed.

Language education is not simply a technical matter, but is underpinned by values. Pupils need a high level of competence in language not just to cope with the demands of school, but also to participate fully in subject-related areas of discourse as well as in life as democratic citizens. If language education is simply taken for granted or confined to one area of the curriculum, it is likely to perpetuate inequalities and disadvantage for many pupils. The practical steps that can be taken at policy and school level to address these challenges and the underlying rationale will be further discussed in the subsequent chapters of this handbook.

Chapter 2
The role of language in the construction and application of knowledge

2.1. THE ROLE OF LANGUAGE IN KNOWLEDGE BUILDING

Language is often thought of as just an instrument for communication. However, language also has a central role in the discovery, identification and storage of new knowledge. Language allows knowledge to be transmitted over time and to be subject to the sort of public discussion and disputes that are essential to ensure its validity. Language makes it possible to disseminate knowledge through formal education and through popular formats outside educational institutions (for example directions for use, recipes). Language is important even when it is not the primary means of expression. For example, many types of knowledge can be expressed in semiotic systems that make little use of language per se: mathematical writing, symbols, formulas, statistics, maps, diagrams, photos, etc. The codes in these systems are self-contained, but they need to be verbalised for purposes of discussion, commentary or teaching. Sometimes language has a representational function, for example a report on an experiment or a research report transpose into the appropriate language the data or findings established independently of their textual expression and fixation. It must be kept in mind, however, that in most cases language is not used solely as a means of representing knowledge established outside the texts recording it, but is often itself the space where knowledge is created. For example, there is no historical knowledge outside the texts of historians, even if it is built up from data and evidence of all kinds that are commented on and analysed. Language is used for heuristic purposes (processes of discovery and learning) in all subjects.

The relation between knowledge and language is therefore more complex than is sometimes thought. It combines functions of:

- ▶ representation: expounding and disseminating knowledge established independently of language;
- ▶ mediation: transposing, verbalising, making it possible to go from one semiotic system to another;
- ▶ interaction: transforming, allowing exchanges (discussion, debate, disputes) between the producers of knowledge and between the producers and users of knowledge, which may lead to advances in knowledge;
- ▶ creativity: creating knowledge, the creation and recording of knowledge in writing thus being two sides of the same process.

This diversity of relations between language and knowledge shows that language is absolutely essential to knowledge and knowledge building. It is therefore important to take the fullest possible account of the variety of functions that language can perform (expounding, transposing, transforming and creating knowledge) in the teaching and learning of school subjects.[6]

There are other ways of looking at the functional dimensions of language. It is commonly accepted among language experts that one can distinguish at least six major language functions, namely: referential, expressive (emotive), appellative (conative), phatic, metalinguistic and poetic. Others stress the ludic (or imaginative) function of language, as opposed to a purely rational use. All of these are considered to be universal, independent of culture, and of a specific language or communicative practice. The important point here is that there seems

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6. For more information, see Beacco J.-C., Coste D., van de Ven P.-H. and Vollmer H. (2010), *Language and school subjects – Linguistic dimensions of knowledge building in school curricula*, Strasbourg, Council of Europe: www.coe.int/lang-platform ("Language(s) in other subjects").

to be a broad consensus among many linguists and language educators that language can and should be approached from a functional perspective; it always serves a purpose, it is always used for something, or to put it differently "we do things with words". In the context of this handbook, it is worth noting that some functions can be realised simultaneously. On the other hand, a particular utterance or text (passage) can consist of a sequence of different language functions or it can also have one dominant function. There are therefore different ways of dealing with language functions and the key question is how they can best be described in order to provide support for language education.

In addition to the communicative uses of language, the heuristic or epistemic function comes into play when the individual seeks to find out about the world and construct knowledge. This epistemic function can be visualised as an "on-line" procedure underlying the searching and thinking processes involved in identifying or developing knowledge that leads to the type of provisional formulations that are part of this process. Accordingly, the term "epistemic modality" is used to refer to the expression of differing degrees of certainty as to one's thoughts or findings. The epistemic function of language is central to acquiring new knowledge and linking it to existing knowledge or for restructuring a whole knowledge domain. Thus the practice of writing has become more prominent, since the process of writing itself helps to restructure thought or consciousness and expand knowledge.[7] As we can see, language and cognition are intimately linked: each language function is at the same time both cognitive and linguistic in nature (for example describing, explaining or stating a hypothesis); each serves specific purposes in terms of expressing and structuring content, experience and knowledge, but also in terms of relating to other discourse participants and to specific forms of communication. By way of illustration, one can list many mental-linguistic processes that are involved in knowledge comprehension and production, for example addressing interest, formulating focus or questions, naming what is already understood, searching for new information, inferencing the unknown, integrating the new into existing knowledge, restructuring a whole area or field of knowledge, and linking new knowledge to other contexts. In all of these processes, we see cognitive operations at work, accompanied by or leading to forms of verbalisation, establishing relationships between thinking and language. As already indicated, writing seems to be particularly productive in terms of clarification and subject-matter appropriation.

2.2.   THE CONVENTIONS OF COMMUNICATION IN SCIENCE, TECHNOLOGY AND THE HUMANITIES

The scientific fields are defined by shared forms of knowledge building based on common protocols and concepts. The same holds true for communication in the areas of technology and the humanities. How far these are similar or identical across subjects or to what extent they are different remains to be seen (see Chapter 8). In this respect, they are communities of practice that bring together social actors sharing insights or research outcomes and ways of building, discussing and validating knowledge. They also share a collective history. This collaborative knowledge building creates interrelated groups and institutions: teams, laboratories, research centres, academies, journals, performances, etc. These may be in competition with each other, but they share values and norms, for example defining "good" knowledge building, judging the quality of scientific or technical work and providing appropriate interpretations.

Some of these norms define conventions relating to communication within these different professional communities. The conventions concern the form of the texts that are produced and circulated: theses, papers to a colloquium, reports on an experiment, publications related to an excavation site, etc. To gain access to these communities, there are what might be called "rites of passage", including the mastering of communicative conventions. These rites of passage form a type of filter that either admits people into or excludes them from the community of practice.

There is also some filtering of this kind at school, but it is not as ritualised and not as explicit. However, a command of what is considered "proper" language or the mastery of certain school-specific genres does play a crucial role in this context. It is well known that an insufficient command of language or the use of an inappropriate register can be an obstacle to the acquisition of knowledge and to school success, especially for groups of vulnerable learners (disadvantaged learners or those with a migrant background or other marginalised groups). Being good at science, for example, also means being good at talking and writing about science, in a specific, conventional way. Acquiring knowledge at school therefore means becoming familiar with forms of communication specific to the communities that produce that knowledge, and appropriating these forms, at least to some extent.

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7.   See Ong W. (1982), *Orality and Literacy*, Methuen, London, and other works.

How do we know that someone "knows"? Only through his or her verbal performance in an oral or written mode. Yet it is clear that knowledge cannot be reduced to a command of the language through which it is expressed: one can know a text by heart without understanding it or being able to explain what it is about. The language used by learners in science, humanities, and technology subjects should be regarded by the teachers of those subjects as a set of outward signs allowing them to observe indirectly the learners' cognitive gains. Conversely, if learners master the appropriate linguistic means of communication in relation to a particular area of knowledge, that mastery will have a positive effect on their knowledge gains and help them to develop the desired attitudes and approaches.

2.3.   LANGUAGE AND SCHOOLING

As already indicated in Chapter 1, there is a growing concern among experts and administrators that an increasing number of young people are not sufficiently equipped to meet the language requirements needed to actively participate in modern democratic knowledge societies. Language proficiency across diverse knowledge domains is important for academic success in school and for social inclusion. This includes the ability to switch codes and opt for a register that is appropriate for a special communicative purpose and social context. Language proficiency is also important for continuing education and training as well as for practising basic civil rights and taking advantage of public media. There is a broad consensus that the traditional approach of expecting young people to come to school with age-adequate proficiency in the language of schooling acquired at home, just needing to be given finishing touches by language as subject, is no longer sufficient. Such an approach is characteristic of a highly selective educational system in a more or less homogeneous social and linguistic context. To meet today's socio-cultural challenges, the whole school has to focus on language education in a very complex, reflective and co-ordinated way, based on reading and writing and thus on distinctive language competence within each subject and across subjects.

So each subject in school is responsible for achieving the goals of that particular subject in terms of knowledge building and meaning-making in the full sense of the term, but also in terms of meeting the goals of successful schooling and of quality education in general. Language requirements such as reading and understanding expository texts, listening to explanations, summarising or answering questions orally and presenting results are present in all classrooms, in connection with content work. The language dimension in teaching and learning subject matter is equally important to language as subject itself. It can be described as the second pillar of the language of schooling. This has been repeatedly stated and demonstrated in various ways by the Council of Europe through its intergovernmental and specialised conferences and the many papers published on that topic, available on "A platform of resources and references for plurilingual and intercultural education" (mainly in the box "Language(s) in other subjects" and in the box "Curricula and Evaluation").[8] Also, the relationship between language as subject and language in other subjects like history, mathematics or science has been addressed on the website and will be dealt with explicitly in Chapter 7.

What type of language do students need in their attempts to acquire new subject-specific knowledge, link it with other pieces of knowledge within the same subject or beyond, question the limits of its validity or transfer it to other contexts? How does language enable and shape their mental activities and their cognitive development as well as their forms of communication? The answer to these questions requires the broad concept "language" to be broken down into categories that have a useful practical application. One of the major goals of school education is to provide access to the knowledge society, to the type of thinking and attitudes that will help learners explain what they are experiencing and building up as knowledge. All this is mediated through enhancing and broadening learners' language repertoires and improving their command of genres and "cognitive-linguistic functions" through subject teaching and learning (see Chapter 1). The right to quality education therefore includes the right of all children attending school to gain practical experience in the use of the respective genres that are (to varying degrees) absolutely necessary for understanding the questions and value of different disciplines, for participating in them as communities of practice (at least to some extent, as potential members), for becoming critical citizens and for their own intellectual development. In this view, it is the responsibility of each subject to familiarise every young person with forms of knowing, thinking and talking that have social, professional or practical relevance, and especially with those relevant for personal decision making and socio-scientific debates.

The construction of knowledge through diverse language activities does not take place in isolation, within the individual alone, without the influence of the environment. Building knowledge through the construction of

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8.   www.coe.int/lang-platform ("Language(s) in other subjects" and "Curricula and Evaluation").

meaning also takes place as a social process, whereby individual learners interact with the teacher and their peers, thus shaping their own, specific forms of learning and the realities of classroom discourse (see Chapter 3[9]). This in turn is strongly influenced by the teacher and his or her underlying values. The complex nature of subject disciplines is not confined to the specialist terminology used. The concept of "genre" has already been identified, describing it in particular, but not exclusively, in relation to texts circulating within communities of practice. In addition, cognitive-linguistic functions operate within genres and partly serve explicit pedagogic or educational purposes. It is possible to describe cognitive-linguistic functions that are valid across the curriculum, but each scientific, artistic and humanities subject should address separately those that are relevant to their subject: in this way the relationship between genres and different forms of knowledge building can best be shown (see Chapter 4 for more details).

With a view to plurilingual and intercultural education, the school's role is to widen the range of genres to which learners have access (their so-called discourse repertoire, which may include genres in different languages). Building on their spontaneous notions and their experience of ordinary everyday communication, subjects offer learners the opportunity to experience genres that are not part of their normal repertoire, understand how they work and appropriate some of them (reception or production). This process helps create the conditions for acquisition of knowledge and the mode of construction of that knowledge as it is represented in the texts. The function performed by this increased range of discursive repertoires is to initiate learners into subject "cultures" that might be new to them in order to guide them towards these specific communities of practice, through mastery of the varied genres associated with them. Some researchers therefore have paraphrased the central goal of school education as developing subject-based discourse competence in all learners.

2.4.   ACADEMIC LANGUAGE COMPETENCE

There is general agreement that mastery of the language used in school as such is not enough, rather it is the mastery of a specific form of that language called "academic language use". This is the most reliable foundation for success in school, for success in subject learning and success in society at large after graduating from school (this notion has already been introduced in Chapter 1 and will be dealt with in more detail in Chapter 4). Without it, learners simply cannot function effectively in school, neither in language as subject nor in mathematics, history or science classes, nor can learners fully participate in the curriculum, as they fall behind or fail. Recommendation CM/Rec(2014)5 rightly speaks of "preventing underachievement" as the main goal in ensuring equity and quality in education.[10] However, the specific forms of the language of schooling that are required and the expectation of genre competence are often under-defined, and are not spelled out explicitly in theoretical terms. Although our knowledge about the distinguishing characteristics of this formal "academic" register used in school, in textbooks and for assessment is not well developed, a number of studies, especially in the United States, have advanced our understanding of the basics of academic language considerably.[11] It is important, therefore, that our conceptualisation of academic language competence or of "cognitive-academic language proficiency" (CALP, as Cummins phrased it in 1979) be developed more thoroughly.

Describing the language of schooling in subjects

In the past, the language of schooling was mainly characterised in contrast to other languages used outside of school. The concept thus focused mainly on the mastery of the "national" language(s) used for instruction in different countries, as a common language for all, independent of the social, linguistic or ethnic background of learners. The concept has now evolved, addressing the issue of specific uses of language for "academic" purposes, for example for formal teaching and learning within the different school subjects. Academic language use now must be seen in contrast to everyday language and its features, to informal and social forms of language use. In order to highlight the difference, certain features of formal or "academic" language competence have been identified in Table 2.1. Others speak of "text competence" in this context, since for these authors all the oral and written genres practised in schools can be summarised under the term "text".[12] Still others describe the results of their studies and observations under the perspective of the basic and necessary

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9. See details in Beacco J.-C. et al. (2010), op. cit., available at: www.coe.int/lang-platform ("Language(s) in other subjects").

10. www.coe.int/cm ("Adopted texts").

11. See WIDA Consortium (2007) "English Language Proficiency Standards and Resource Guide", available at: www.wida.us/get.aspx?id=4.

12. The term "text competence" has become a well-defined term in the area of German as a second language, for example, based on empirical research.

language qualifications acquired for lifelong learning through formal schooling.[13] The Norwegian Directorate for Education and Training (see Chapter 10) uses the principal categories of the *Common European Framework of Reference for Languages* (CEFR), applying them to reading, writing, listening and speaking within subject-specific contexts. Yet another approach tries to model subject-related language competences in accordance with pedagogical phases of classroom teaching and lesson planning, identifying the genres as well as the cognitive-linguistic functions within them (see North Rhine-Westphalia in Chapter 10). The approach advocated in this handbook is theoretically driven, focusing on a functional understanding of language, subject-specific forms of communication and meaning production (see Chapters 3 and 4).

Table 2.1: Characteristic features and functions of academic language use

Some characteristic features of academic language	Some major functions
In contrast to colloquial informal language: higher frequency of longer complex sentences, impersonal statements and passive voice, abstract terms, nominalisations, complex compound words, particular figurative expressions and lexical or set phrases (e.g. "crux of the matter", "point of view"), clarity of expression and low redundancy, condensed texts and complex messages, etc.	To communicate complex facts, contexts and arguments, support higher-order thinking, abstraction and concept formation, establish coherence of ideas, avoid personal involvement, facilitate comprehension for distant "audiences", support arguments with evidence, convey nuances of meaning, modalise statements through "boosting" or "hedging", etc.

Table 2.2 and Figure 2.1 illustrate the nature of academic language in context, in close connection with content-based language. In Table 2.2, a distinction is made between content language and general academic language use within a number of subject areas.

Table 2.2: Distinction between content language and general academic language use

Examples of subject-specific v. general academic language use in different content areas		
	Subject-specific language	General academic words and phrases
Language as subject	Imagery, alliteration, theme, metaphor, plot Stylistic devices This expression is ambiguous	That is, implied, contains, leads us to believe, teaches a message Therefore, as a result, consequently, consist of, on the assumption that …
History	Revolution, emancipation, right, oligarchy To stand up for one's own right, usurp power Rights and obligations	If … then, end up with, derive, take care of, thus, suppose, prove, confirm Hypothesis, variable, infer, results, dependent (on)
Mathematics	Reciprocal, balance, proof, hypotenuse, obtuse, matrix The curve is (sharply) rising/falling	To increase, to decrease, to stay even or to even out
Science	Mitosis, gravity, force, sublimation Global warming	

The examples presented in Table 2.2 are partly based on the work of Jeff Zwiers.[14] They demonstrate the distinction between the more "technical" language elements of specific knowledge domains and general academic language use. Depending on the given or intended genre within the respective content area, specific syntactic patterns or set phrases are used.

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13. Gogolin I. and Lange I. (2011) use the notion of *Bildungssprache* within the German context and beyond *Bildungssprache und Durchgängige Sprachbildung*. In Fürstenau S., Gomolla M. (eds), *Migration und schulischer Wandel*, Mehrsprachigkeit, Wiesbaden.
14. Zwiers J. (2008), *Building academic language. Essential practices for content classrooms*, Jossey-Bass, San Francisco, p. 23.

In the second example (Figure 2.1), the authors distinguish more precisely four aspects of academic language features, namely content-specific vocabulary, general academic vocabulary, grammatical structures and cognitive-linguistic functions.

Figure 2.1: Example illustrating aspects of academic language in context[15]

Sample analysis passage: LANGUAGE DEMANDS	Academic language features found in the passage
One of the prevailing scientific opinions is that there is simply not enough evidence to warrant a conclusion on the issue of global warming; however, the scientific community is somewhat divided since one prominent scientist is convinced that the world is in a human-induced warming phase	**Content-specific vocabulary** Example: "global warming" in science **General academic vocabulary** Example: "prevailing" or "warrant" in language in arts, science, social studies, other content areas **Grammatical structures** Example: long and complex noun/prepositional phrases such as "a conclusion on the issue of global warming" **Academic language functions/discourse functions** Example: compare/contrast ("however"), persuade

As to the fourth aspect in Figure 2.1, there seems to be a limited set of basic language functions (or cognitive-linguistic functions, as we call them) that repeatedly show up in comparative curriculum studies and that seem to represent the basic units of content structures and of mental activities.[16] These macro functions are understood and shared by the respective discourse communities across the disciplines and constitute a link between the pedagogical approaches of dealing with genres and academic ways of thinking, writing and speaking. These functions reflect the logic of experience and knowledge construction and thus the basic patterns of cognition. In that sense, these functions are both cognitive and linguistic in nature and come very close to the concept of thinking skills. They express a specific intention or activity in the mind and put it into words simultaneously. Examples include:

▸ naming/defining;

▸ describing/comparing;

▸ narrating/reporting;

▸ explaining/illustrating;

▸ conjecturing/hypothesising;

▸ assessing/evaluating;

▸ arguing/reasoning;

▸ positioning/taking a stance, negotiating, modelling (see also Chapter 4).

For many students, the language of their day-to-day life either at home or in their peer group is markedly different from that of school and of subject learning. Many students also lack consciousness and explicitness in cognitive operations. There is a tension between spontaneous (everyday, colloquial) speech versus the expected, conceptually "written" forms of school discourse that are expected to unfold by themselves, but do not in many cases. Finally, the demands and practices of the individual subjects differ from one another, so that learners might have difficulty adapting again and again to the different content areas, involving – at least potentially – destabilisation and disempowerment. All these tensions can pose difficulties in bridging the gaps between home and school. Yet the school has to adapt to the learners – and not only the other way around. In other words, the school has to meet learners on their own territory or at least pick them up from where they are and bring them successively to higher levels of subject and language performance and thus to subject literacy.

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15. *Source*: *Time* magazine, 17 April 2008.

16. Vollmer H. (ed.) (2007), *Language and communication in the teaching and learning of science in secondary schools*, Council of Europe, Strasbourg, available at: www.coe.int/lang-platform ("Language(s) in other subjects").

2.5. SUBJECT LITERACY

The notion of "literacy" was originally used to designate the ability to read and write, but its meaning was gradually extended. For example, UNESCO has used a wider definition, redefined by the Programme for International Student Assessment (PISA) Consortium in 2006 (focusing on scientific literacy) to introduce the idea of knowledge use and transfer and its applications to life situations, problem solving, and influencing decision-making processes as an indispensable part of subject competence. This knowledge application is not limited to subject-internal questions and not even to school-related issues, but extends to any future problem in life and any new learning situation. In terms of text and task understanding, such an approach includes certain operational aspects like reading between the lines, drawing the necessary inferences or dealing with hidden implications, just like in real life.

In 2006, the understanding of (scientific) literacy was once more widened to include attitudes, for example the readiness on the part of learners to be interested, question positions and engage critically in the development of a specific field, and to follow it lifelong:

> Scientific literacy is an evolving combination of the science-related attitudes, skills, and knowledge students need in order to develop inquiry, problem-solving, and decision-making abilities, to become lifelong learners, and to maintain a sense of wonder about the world around them (PPCE, the Canadian version of the definition, based on PISA 2006).[17]

Thus the modern versions of this concept can be interpreted as a path towards critical thinking and knowledge application as well as towards social participation. In concrete terms, it is composed of at least three different areas of competence, namely knowledge (linked to language and epistemological competence), action (in terms of learning competence, procedural, communicative and social competence) and evaluation (aesthetic and ethical/moral competence).

Based on this understanding of scientific literacy, the notion has developed across all subjects of a basic set of knowledge in a certain domain, of knowledge application, and a willingness to appropriate and follow the logic of each domain respectively. In that perspective, subject literacy becomes part of what is called *Bildung* in German, because the knowledge, skills and attitudes, once acquired, can be linked and used in many different ways, while at the same time forming the material basis for individual development.

This generalised notion of literacy in all subjects can help us understand the broad scope of what is meant by a "quality education" and particularly the role of language as a constitutive part of subject competence. Subject literacy, which is both functional and general at the same time, is a useful concept for describing the broader goals of subject education (Figure 2.2). It means getting acquainted with and feeling at home in ways of thinking and communicating in the respective subject discourse communities, and becoming new members of these communities (for example as a young physicist, biologist, artist, musician, historian or foreign language expert) and participating in the relevant discourse, at least to some extent. Subject teaching and learning can thus be thought of as a process of initiation into these different discourse communities of practice so that every learner can at least follow specific ways of exchanging and arguing, and also actively contribute to them.

Figure 2.2: Defining subject literacy though its dimensions

Six aspects of subject literacy
- ▶ Comprehending/understanding in-depth (the meaning of an utterance, a text, a problem)
- ▶ Communicating and negotiating knowledge
- ▶ Reflecting on the acquisitional process, the learning outcomes and their personal as well as social uses
- ▶ Applying knowledge to and within other contexts
- ▶ Participating in the socio-scientific world
- ▶ Transferring generalisable knowledge, skills, attitudes

We are dealing here with a concept of education whereby the knowledge acquired always has to lead to something else, lending itself to expansion, networking and a deeper understanding of certain segments of reality. The underlying philosophical principle is one of utility (immediate or in the long run), but also one of personal human development. By building up a stock of specific skills and more general perceptions as

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17. Available at http://cmec.ca/docs/pcap/pcap2013/Science-Framework-FR-April2013.pdf.

well as procedural competences – originally subject-embedded – that can be applied to new issues, to other subject areas, and even to problems outside school and to mastering one's own life, the true goal of education (*Bildung*) is attained. Such a concept, accompanied by a supportive teaching/learning approach, aims to develop self-responsibility in an individual, cognitive and social learning as well as socio-scientific engagement of learners as future citizens.

To sum up, the language competences involved in subject literacy as an overall concept include the following:

- ▶ processing and acquiring subject knowledge (through listening and reading activities) and in-depth understanding of texts that deal with subject-matter issues;
- ▶ negotiating the meaning of new knowledge items in relation to already existing ones;
- ▶ reflecting on how a new insight developed and was acquired;
- ▶ considering the validity and use of knowledge, applying it to other/new contexts;
- ▶ preparing for and participating in socio-scientific debates and relevant discourses outside school;
- ▶ questioning critically the meaning and scope of rules or conventions, generalising the acquired procedural knowledge and skills (as part of one's general education)[18] (see Figure 2.2).

All these subject-related operations are particularly challenging for groups of learners who are disadvantaged by their socio-economic or migrant backgrounds, and who do not bring to school the communicative skills and the motivation necessary for meeting the cognitive-linguistic challenges posed by complex subject demands and learning requirements. But what exactly are the minimal competences necessary and the basic motivation that young learners should bring to school? Who is to build them up prior to their entering school? What role do parents play, and how could informal education in the pre-school years make up for possible weaknesses? How could politics come into play in this context?

In order to develop such competences of subject literacy, each and every student has to be equipped not only with the basic knowledge structures of a subject, but also with ways of applying the acquired knowledge. This includes linking what is learned in school to existing knowledge and to problems in the socio-cultural reality, and being able to communicate clearly and exchange ideas with others. Such an extended understanding of what it means to become literate in a specific content area leads to the immediate insight that a great deal of language is needed for realising all of these demanding goals and processes within subject teaching and learning. This means not only learning in a structured way, to understand all kinds of "texts" (meaning-making devices) in different semiotic forms and multimodal ways, but equally to express oneself in multimodal ways about subject issues and their implications. In this context, subject-based writing becomes particularly important once more: it gives learners a chance to make increased use of heuristic/epistemic language functions in the process of trying to think, and clarify and express their knowledge, widening their knowledge base at the same time. It also requires them to be as precise as possible in their formulations, matching meaning and form in an explicit, controlled way, thus possibly discovering new aspects and relations. Writing within the subject classroom, therefore, is of great relevance, yet it seems to be underdeveloped in many ways, especially in lower secondary schooling. Highlighting the importance of writing in this way does not mean neglecting oral production where learners should also strive for explicit ways of communicating on a conceptual or sentence level. It means, particularly, connecting ideas and units of meaning (through complex sentence building) by using connectors and checking the most effective ways of sequencing and conveying the overall message. All these aspects have to be learned explicitly as a genuine part of subject learning and teaching, and clearly embedded within it. Where necessary, this has to be scaffolded (see Chapter 8).

In sum, all learners are entitled to be qualified to the highest possible degree, in their own interest as much as in that of society. One could even say that learners have to be deliberately exposed to certain experiences, and confronted with cognitive-linguistic challenges because they need them for their own development (as in the "Zone of Proximal Development" or ZPD, the activity space in which, according to Vygotsky, learning occurs). They need these experiences to increase their cognitive ability, advance their knowledge structures and operational skills in the subjects, and become educated as a whole, as a person. Through widening both the general academic and content-specific language repertoires in combination with diversified genre development and an increasing mastery of cognitive-linguistic functions, learners are empowered to enter new

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18. "Procedural knowledge" or "learning how" refers to learning how to do something.

domains of knowledge and experience diversity and success at the same time, thus becoming agents of their own future as plurilingual, interculturally competent democratic citizens.[19]

2.6.   IMPLICATIONS FOR PRACTICE

The importance of language in knowledge building and knowledge application and thus in subject-specific learning and teaching has been clearly demonstrated; it has to be fully acknowledged by teachers, students and policy developers alike. The pertinent language competences should be explicitly stated and integrated into each subject curriculum, on each level, related to age groups or educational stages. Also, they should be explicitly taught as a constitutive part of the knowledge-building process in each subject and across subjects. Focusing on subject-specific terminology is certainly not enough. Different procedures for describing classroom activities, genres, cognitive-linguistic functions and academic language repertoires in subject learning have been identified elsewhere.[20]

Young people need the best of knowledge building to prepare them adequately for the knowledge society. Transparency within subjects and transversality between them should be the aim. This will be achieved by a clear educational policy both at national and school level, by providing a list of subject-specific language dimensions, of genres and cognitive-linguistic functions across subjects and by finding ways of implementing these in connection with subject content. Teachers should become aware of what it means to be good, language-sensitive subject teachers. The goal is to ensure progression in each subject, preventing underachievement and helping students make full use of their schooling as persons, learners and future citizens. Without such clear perspectives, inequalities in education will not be overcome and its quality will not be sustained.

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19. Meyer O., Coyle D., Halbach A., Schuck K. and Ting T. (2015), "A pluriliteracies approach to content and language integrated learning: developing learner progression in mapping knowledge-construction and meaning making", *Language, Culture and Curriculum* 28, 1, 41-57.
20. Beacco J.-C. et al. (2010), www.coe.int/langop. cit., and Chapter 10 on Curriculum development.

Chapter 3
Forms of classroom communication and the acquisition of subject-specific knowledge

Knowledge is acquired in the classroom through the descriptions that are given of it, the discussions that help to consolidate it and the activities in which learners use it (see Chapter 2). All these activities comprise a verbal aspect. The teaching arrangements for providing access to knowledge and academic expression must therefore be based on forms of verbal communication in the classroom. Classroom communication takes on different genres, such as presentations (by the teacher or learners). The word "text" is understood as referring to both oral and written output and to texts produced by a single person or by several persons (for example, face-to-face exchanges or "interactions"). These textual ensembles will be referred to by the term "genres": the idea of genre does not apply solely to literature (novels, drama, poetry, etc.) but can also denote specific sets of related texts, such as horoscopes, daily newspapers, anecdotes or fables. One can describe their common features in linguistic terms (see Chapter 4) and also, as in the present case, their role in terms of knowledge acquisition.

In a classroom, many different genres are produced: presentations by the teacher or by one or more pupils, teacher-led discussions/debates, discussions among pupils in practical exercises, textbook readings by pupils, etc. In these activities, language is not the main focus of study. But the learner acquires knowledge through these varied verbal productions and, at the same time, learns to master new genres of an academic nature that are not used in ordinary everyday communication. We will attempt to catalogue the genres present in classroom activities and identify those that may be considered most strategic for the acquisition of subject-specific knowledge: those in which and through which knowledge is built and transmitted and with respect to which subject teachers should show the greatest linguistic vigilance (in other words, attention to expression in all its forms).

The forms of communication used in the classroom, especially the oral forms, are fairly unstable and it is easy to switch from one to another. In terms of quantity, these forms are mostly oral, but assessments are usually written, as are the forms that need to be acquired in order to expound and discuss knowledge, thus their importance. The possible bridges between the oral and written forms (or vice versa) will be considered in Chapter 4: the basic forms of classroom communication will merely be presented here in order to identify their role in knowledge building.

3.1.   PRESENTATION BY THE TEACHER

The teacher may choose to be the only speaker for part or sometimes the whole of the lesson. In such cases, the pupils play a listening role (they take notes), and usually they do not speak or they speak occasionally (for example to ask for clarifications), or only when prompted to do so by the teacher. This is the traditional form of face-to-face knowledge transmission, which is basically the transmission of declarative knowledge, concerned exclusively with description and not with action. Pupils must be able to reproduce that knowledge verbally (*inter alia* by memorising it) on the basis of their notes, summaries distributed before or during the lesson, or the textbook. The linguistic quality expected for this genre is a matter for the teacher: it must be such as to ensure proper understanding/intellection of the knowledge. The effectiveness of the teacher's discourse in ensuring the actual acquisition of the knowledge is difficult to evaluate, and this form of one-sided, non-interactive transmission has often been questioned.

The quality of the teacher's presentation depends on clarity of articulation, flow, variations in rhythm and tone, gestures, etc. Also important are the structure of the presentation (the clarity of structure facilitating comprehension) and visual aids (information on the blackboard, for example). When it is a case of solving a problem or giving a demonstration, the successive stages must be clearly identified insofar as they are determined by the epistemology and modes of argumentation specific to each subject. The presentation approach may imitate the scientific approach if, for example, such stages as the following are identified:

- ▸ description of the problem;
- ▸ state of knowledge about it;
- ▸ choice of an experimental/observational method;
- ▸ concepts and notions involved;
- ▸ analysis and discussion of the results obtained through the method;
- ▸ consequences for existing knowledge.

Other factors affecting the linguistic quality of this transmission discourse are the explicitness of terminological definitions and the cognitive stability of terms. These can, however, be paraphrased in various ways (such as metaphors or comparisons) to make them easier to understand and to lead learners to differentiate between the scholarly and ordinary senses of a term (or replace an ordinary term with a scholarly one). A good-quality presentation may also elicit affective responses in such a way as to give the reception situation an experiential dimension.

In other words, this genre, for which the teacher bears sole responsibility, would benefit from being conceived as a form of exposure to an academic genre and not solely as a means of transmission. A certain effectiveness can therefore be attributed to it as regards the elucidation and assimilation of knowledge by students, given that it is broadly similar in nature to textbooks.

3.2.   PRESENTATION WITH DIRECTED INTERACTION (SCRIPTED LESSON)

Questions aimed at pupils may be incorporated into teachers' presentations. Teachers know the answers to these questions and expect them. They select the pupils to question. The exchange takes a predictable, routine form: the teacher asks a question, a learner answers and the teacher evaluates the answer. It may follow a more complex scenario if the answer is deemed unsatisfactory (request for further details, rectification, etc.). The function of these predictable exchanges is to verify comprehension in real time, mobilise knowledge already acquired or ensure that it is. For the pupils, these exchanges are an opportunity to practise interaction, but this interaction lacks spontaneity and involves limited verbal responses (such as a few words or phrases mirroring the question) (Figure 3.1).

Figure 3.1: Extract from the recording of a biology lesson[21]

> **T.** We have studied the movement of substances in the bodies of living organisms. I want to test your knowledge of this subject. First question: describe the movement of sap in plants. Léna, please.

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21. Corpus S. Bellini, Biology lesson, 11th school year (Rep. of Moldova), phase 1: assessment of knowledge, 3'30" (doctoral thesis, University of Paris III).

P1. Movement in plants consists of the ascent of crude sap and the descent of elaborated sap. The ascent of crude sap means that (uhm) the water absorbed by the plant in the ground is transported by XXXXXX to the leaves and the extremities of the plant, and the descent of elaborated sap means that watery solutions of organic substances produced by the plant are transported from the leaves to the other parts of the plant (uhm) whereas movement in higher plants occurs through (uhm) XXXXXXX tissues whose functions can be compared to those of (uhm) vessels in animals (uhm) in lower plants, movement occurs through phenomena like diffusion and osmosis.

T. Or osmosis. Sit down. The vessels which distribute blood throughout the body are arteries, veins and capillaries. The definition of artery is characteristic of these vessels. Who's next? Clara, please.

P2 Arteries are blood vessels which carry blood from the heart to the organs (uhm), they have valves only at the point where they leave the heart. Their thick walls are elastic and they are very important in the functioning of this system.

T. Sit down. Who wants to talk about veins? Gabrielle.

This genre can be used to develop a limited interactional competence, but this has nothing to do with real academic discussion. It can no doubt provide the opportunity to develop a form of linguistic competence if the pupils' verbal productions take the form of complete utterances, provided this is not artificial. But since we are talking about declarative knowledge (in the example in Figure 3.1, the answers are clearly memorised), successful interaction is not necessarily a sign that the knowledge has really been appropriated.

3.3.   QUESTIONING AND DISCUSSION

This form of teaching, like the previous one, is organised by the teacher and may be fitted into a coherent presentation or replace it. It takes the form of an oral exchange designed not to transmit already constituted knowledge directly but to (re)construct knowledge collectively by negotiating the meaning of what the lesson is about by means of successive clarifications and reformulations that involve justifying, arguing and reacting to other learners' propositions. These exchanges resemble ordinary conversations: pupils volunteer to speak; the topics are negotiated; the teacher facilitates the exchange, supplies the required information or rectifications, and summarises, concludes, answers requests for clarifications or explanations, or gives the pupils themselves the task of finding the information. This communication format enables learners to express their "ideas" and provides a suitable framework for progressing in a non-directive way from ordinary naive knowledge to academic knowledge, hence broadening their knowledge and increasing its complexity. It represents a form of communication that, in some respects, is spontaneous and where learners' verbal resources are mobilised in real time. These exchanges can take on more open forms less centred on the teacher directing them. Recourse may be had to adversarial debate based principally on argumentation and persuasion, particularly in the case of societal issues (nuclear power, ecology, etc.) that may come up for discussion in science lessons. What is interesting about these verbal interactions is that the work on expression cannot be dissociated from the work on knowledge and their cognitive benefit is ensured through the involvement of learners in shared knowledge building.

3.4.   EXCHANGES AMONG PUPILS

These may be of a personal nature, with pupils talking about themselves or things other than the subject of the lesson: this is what is known as "chatter". But these topics may also be related to class activities and concern, for example, how a task is to be performed or the task itself, which often has a verbal dimension: answering a question, solving a problem, writing a report on an experiment, etc. These exchanges may be based on acquired knowledge or lead to the formulation of hypotheses. They may involve collaboration or disagreement: in the latter case, they will involve negotiation, and one of the pupils may play the role of teacher to the others.

It is not really possible to influence these exchanges, which are, in a sense, private. From the pedagogical standpoint, however, encouraging such exchanges means creating situations where the pupils are able to take charge of their learning in the context of the tasks assigned to them. These are forms of questioning that take place independently of the teacher: in that respect, they can stimulate a major form of learner involvement if the pupils handle them properly.

3.5. NOTE-TAKING AND SUMMARISING

Note-taking by learners is a personal matter (like interaction, see above), because learners have their own strategies and techniques for this, which may be very diverse (noting down word for word, using clusters of keywords, drawing diagrams, etc.). It may be useful to give pupils advice on how to structure their note-taking, whether it is based on the teacher's presentation during the lesson or on the textbook, for example. In cognitive terms, note-taking mainly has the function of storing and memorising, and sometimes a more active acquisition function if the notes taken on the basis of the textbook are a rewriting of the text read. This reworking may help learners to understand or assimilate the knowledge in question. As note-taking occurs in response to coherent presentations – those of the teacher, the textbook or another source of information – it can be a medium for acquiring these genres. Lastly, notes taken from a textbook or other sources of information may also serve as the basis for oral productions, such as a presentation by a pupil where not everything is written down.

Note-taking goes hand in hand with summarising: the latter involves a complex process of understanding the source text and paraphrasing it, as well as selecting and reorganising information and knowledge. Where summarising has a documentary function, namely to produce a condensed version that is faithful to the substance of a text, reading and producing summaries of this kind can be an accessible means of gaining experience of academic genres. In contrast to this, there are summaries with an "incentive" function, such as film summaries, the main purpose of which is to make you want to see the film.

3.6. PRESENTATION BY ONE OR MORE PUPILS

These presentations are prepared, to a large extent, and presented with the help of notes. They are sometimes completely in writing or in PowerPoint form. They are a structured disclosure of knowledge constituting an approach to academic knowledge. They must satisfy known criteria (clarity, logical progression, etc.) and are based on consultation of relevant and reliable sources that are transposed and even quoted. This genre constitutes a form of training in the production of coherent texts because they are non-interactive, oral productions organised and expressed in a way that tends to mirror written genres. Conversely, they may also constitute an intermediate stage in the production of texts. Because they are prepared independently, presentations lead learners to seek clarification for themselves of the knowledge that they are required to reproduce for others.

3.7. READING THE TEXTBOOK OR AUTHENTIC TEXTS

The textbook and other, authentic materials (that are not produced for teaching purposes) of the Wikipedia type, for example, or science magazines for children and adolescents (designed to supplement what they learn at school), are a form of expression of fundamental importance for acquiring and expounding knowledge. Like the teacher's coherent presentation, but in an even more controlled way, the discourse of the textbook is, of those modes used systematically in the classroom for teaching purposes, the one that most closely resembles academic discourse. It is not strictly speaking an academic genre, because it is not in this form that knowledge is set down in writing in academic communities. Members of these communities communicate in writing by means of articles (in specialist journals), papers to symposia, expert reports, doctoral theses, etc. Textbooks are a subset of the wider genre of the popularisation discourse, designed to spread knowledge among the general public or make it accessible to non-specialists so that they can appropriate it or at least understand it provisionally.

Figure 3.2: Extract from a history textbook for the third year of primary school in France[22]

> Why do we talk about the Gallo-Romans?
>
> The Romans did not seek conflict between conquerors and conquered. Gallic chieftains were important figures and participated in the running of the country and its towns. Over the years, the Gauls acquired the same rights as Romans.
>
> Gaul became Romanised: the Gauls adopted the beliefs, the way of life and the language of the Romans, Latin. However, they retained certain traditions, their gods and their craft and farming know-how. This mixture of the new and the traditional resulted in the Gallo-Roman civilisation.

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22. *Odysseo*, histoire-géographie CE2, Magnard, Paris, 2013, p. 42.

> Commentary: The following should be noted: repetitions designed to avoid ambiguity (Romans, Gauls), definitions suggested in the text (chieftains = important figures), general terms suited to this level not supported by examples (rights, beliefs), and especially the fact that these two paragraphs tend to define and illustrate the historical notion of "Gallo-Roman" contained in the title.

Textbooks written in a very pedagogical style, as shown in Figure 3.2 (this is not always the case), can thus serve as a model for the production of texts meeting the general requirements and most widespread conventions of knowledge exposition and discussion. Access to this genre is a priority because these are the forms of text used in teaching that are furthest removed from the ordinary forms of communication that, for the most part, make up pupils' communicative experience.

3.8.   PRODUCTION OF WRITTEN TEXTS

The representation of knowledge in writing is an essential form of academic communication: it ensures that knowledge can be transmitted across time and space and can be discussed. Pupils must be helped to acquire the ability to do so as a matter of priority by reading textbooks, but also by producing texts of this type. Writing within subjects should therefore not be reduced to being one of the main forms of knowledge evaluation, nor should it be used solely as practice for assessments or exams.

Special training is required to produce texts of this genre. For this purpose, it will be useful to adopt a model-based approach, namely training in the production of texts based on texts of the same genre with a specified format, whose characteristics will have been identified (see Chapter 4). These correspond to genres used for knowledge disclosure, but recourse may also be had to "non-academic" genres, such as the historical novel or correspondence between members of a learned society. This is not only for reasons of motivation, but also to establish a link with the language of schooling as a subject.

The genres expected of pupils vary considerably according to the subject, educational level and educational culture. Above all, however, they are usually not very clearly defined and therefore give rise to productions that are difficult to evaluate because the instructions are usually not explicit enough. More often than not, use is made of genres invented by the school, that is, that are not used in actual communication outside of it. These depend on national traditions and are often very different across languages and educational cultures.

It may, therefore, be considered that the text in Figure 3.3 produced by a pupil could have been better prepared if the characteristics of the expected form had been more clearly specified.

Figure 3.3: Text produced by a pupil in the first year of secondary school in France[23]

> Children must be taught to obey their parents.
>
> Obedience is important because it helps us to live together better as a society, to be more successful in life. One of the first things children should be taught is obedience. For this purpose, children must be well brought up. To be well brought up, children must be punished and not allowed out. If children do not obey, that will cause problems such as the parents' authority over the child, finding a job …
>
> But obedience is not always a very good thing. Obedience has its limits because children may be too obedient. That can also make children unhappy if the parents go too far. They'll have no friends and won't go out any more. It has to remain reasonable (example: if someone in the street asks an obedient child to give him his jacket, the child will give it to him because that's how he was brought up).
>
> I think you should obey up to a certain point and not go too far.
>
> *Note*: Orthographic mistakes were corrected in the original French version.

This production exhibits structural, lexical and syntactical shortcomings in relation to the kind of text expected. But if the genre had been more clearly specified (whom the text is aimed at, for what purpose, in what context, etc.), some of these issues might have been identified and, with suitable preparation, rectified.

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23. *Source*: Masseron C. (2003/2), "Le déficit syntaxique dans les copies argumentatives", *Le français aujourd'hui*, 141, pp. 83-97.

We have seen that classroom genres are not equivalent in terms of their role in knowledge acquisition. The factors that influence these forms of communication and their function in knowledge acquisition are:

- ▶ the setting in which they are produced: the class itself, practical exercises in the laboratory, exchanges among pupils in the field, verbal exchanges in connection with the performance of a collective task, etc.;
- ▶ the participants: the teacher alone, one or more pupils (presentation or report), oral exchanges between teacher and pupils, exchanges among pupils, etc.;
- ▶ the medium: oral (improvised, spontaneous or prepared with notes and partly written or accompanied by a slide presentation); written for reading (documents, instructions, textbook, etc.) or for the production of texts by pupils; semiotic (non-verbal and not only consisting of language);
- ▶ the function: transmitting knowledge, taking up and using knowledge, jointly building knowledge, applying knowledge, reproducing knowledge, evaluating knowledge, etc.;

The role of a teacher sensitive to the linguistic dimensions of academic knowledge is to create clear and appropriate links between these forms of communication in such a way as to lead learners from spontaneous oral exchanges and personal written accounts to questioning, controlled discussion and coherent written texts in which subject-specific knowledge is expounded clearly (from a cognitive and linguistic standpoint) and in a distanced and falsifiable manner.

Chapter 4
Acquiring a command of academic expression

T he different genres to which pupils are exposed (textbooks to read, teacher presentations to listen to, etc.) and that they produce (interactions, presentations, texts written by them, etc.) are communication spaces where their knowledge is also developed (see Chapter 3). These will be described in this chapter through a dynamic rather than a typological approach, in order to define transitions from one genre to another, at a meso-curricular level.

4.1.   OBJECTIVES FOR DIFFERENT CURRICULUM LEVELS

Learning to manage academic forms of expression implies firstly, and at every level of education, making subject teachers aware of the benefits of general language-related activities such as, at micro-curricular level (see Chapter 9, classroom activities), those relating to:

- ► use of a formal socio-linguistic register (for example in oral presentations), although some subject teachers are not sensitive to this requirement and tend to favour the use (including by themselves) of a familiar register, even though some learners reject familiar expression as not being part of their identity;
- ► correct usage of subject-specific terminology;
- ► assistance for learners in expressing their spontaneous reasoning;
- ► accuracy in terms of grammar and spelling.

Such activities are definitely very useful, particularly where the formal register is concerned. They are not, however, sufficient to give pupils mastery, in terms of understanding and production, of the forms of communication used to build, expound and discuss knowledge.

The acquisition of academic competences and knowledge presupposes a degree of progression taking learners, through the different stages in their education, from an immediate, ordinary conception of the world to one that is more academically based, depending on their cognitive development. In parallel, this transition is also a shift from mastery of some genres to mastery of others. Learners' repertoires of genres need to be developed through expansion or through transformation of the existing forms into others, that is, from ordinary forms of communication to knowledge-related forms of expression. For pupils, the genres present in the classroom are, to differing degrees, ways of appropriating knowledge, some entailing forms of communication that are relatively unfamiliar to them, which they also need to acquire.

4.2.   BRIDGES BETWEEN GENRES

Pupils' repertoires of genres should be developed through the building, at every level of the syllabus, of bridges (or "scaffolding") linking familiar genres to those present in teaching: some, through the scaffolding process, will give access to others that are closer to real academic communication. These bridges need to be built because there is no continuity between oral genres (interactive, improvised, etc.) and many written genres, which follow different rules: they entail research and preparation, planning and review, activities that are as important as production itself.

There are three lines that structure the path to be put in place, throughout education and across all subjects, between the genres familiar to learners (those of their environment) and those unfamiliar to them, which constitute different forms of academic communication present in syllabuses:

▶ from personal to objectivised expression (line 1);

▶ from interaction, involving a text jointly constructed into which scraps of text can be incorporated, to a coherent, individually organised and planned text to which, however, collaborative additions may subsequently be made (line 2);

▶ from the oral to the written, the most accomplished form of academic expression (line 3).

This strategy is related to the didactic concept of "systemic scaffolding", whereby intermediate and provisional genres are used (in production and reception) to lead up to the genres actually desired.

The attention given to oral interaction (now a well-represented educational tendency) and the amount of teaching time that it occupies[24] should not lead us to underestimate the fact that subject-specific knowledge is based on writing and formalised in what we might call a "rhetoric of knowledge". This differential between the negotiated oral co-construction of knowledge and the reception or production of texts in accordance with academic writing standards makes the third line probably the most strategic. But the construction of scaffolding along these three lines does not necessarily imply dealing with them separately. Two possible paths are described below, moving towards academic discussion and moving towards written representation of knowledge.

4.2.1. Moving towards academic discussion

Knowledge is built through discussion, in laboratories or specialised academic colloquies, but also in the classroom, where learners build their own knowledge. Negotiation and argumentation based on established knowledge are central to this. Discussion in academic communities relates to observation of an object or phenomenon, information found in documents, quantified data resulting from an experiment, etc. Teaching pupils to engage in this kind of discussion requires lessons to include a lot of time for teacher-pupil and pupil-pupil exchanges, focused on the development of general skills such as exploring, arguing, justifying and comparing.

Scaffolding may be based on two kinds of oral interaction. The first is making a presentation with directed questions (see Figure 3.3), even if it only entails the reproduction of previously acquired knowledge. This is at least a form of interaction that may get pupils to use certain verbal material (for example through asking questions).

Another, more important, starting point is ordinary discussions that are truly open. These do not relate to objects of knowledge, but are strongly contextualised and enlist arguments of all kinds. Above all, such discussions are erratic in nature. The aim here is gradually to achieve regulated exchanges in which participants take turns to speak, moving towards a clear goal, as in a systematic discussion in which theories or interpretations are gradually refined.

Knowledge-related discussions are confrontations of viewpoints or interpretations that also entail questions about the meaning of words used or terminology; reformulation and adjustment of utterances; correction of assertions; a comparative approach or a reliance on acquired knowledge. They are not solely confrontations of conflicting statements or arguments, sometimes with a strong emotional dimension, as in ordinary discussions. Here again, it is important, through school subjects, to devise techniques for calming and enriching this rather mechanical approach (arguing for or against) to verbal debate.

Finally, as knowledge is also very often presented in semiotic non-language forms (data tables, formulas, diagrams, maps, photographs, etc.), verbalisation of that information (in the form of descriptions or comments and reactions) is another kind of interaction to be taught to pupils that is vital to the understanding and joint building of knowledge.

The teacher's role is to organise and manage these teacher-pupil and pupil-pupil exchanges with a view to increasingly organised interaction of good heuristic quality. It is important for these exchanges to be devised not as an opportunity for assessment, but as an open form of communication in which pupils may express themselves, even if in vague terms, thus creating self-confidence within the class. Such efforts to achieve accurate and relevant expression are crucial to knowledge appropriation.

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24. Estimated to average between 80% and 85% of available teaching time.

However, this shift away from teachers' presentations with closed verification questions and from mundane to serious discussions, although situated on lines 1 and 2, is not a way of moving on to the production of structured texts (line 3), because these real-time verbal exchanges do not have the same kind of coherence as written texts, although controlled oral forms positively confronting viewpoints and interpretations may afford a good linguistic basis for written argumentation.

4.2.2. Moving towards written representation of knowledge

Not all the genres present in the classroom can be used directly to support the move towards academic expression, even if they have a role in knowledge acquisition (exchanges among pupils, or note-taking on the basis of written or oral material). We will outline here a way of gradually moving towards both understanding and producing non-interactive written academic expression.

From narrative to reporting

If, as is desirable, the teacher uses practical, academically oriented activities (tasks, class projects, basic science activities in lower secondary education in particular), the result will be verbal productions by pupils such as notes, written drafts, exchanges of opinions and theories, as well as non-verbal indications (sketches, plans, etc.), on the basis of which conceptualisation itself will be able to take place to solve problems involving the use of invariables (sizes, properties, relationships, etc.). These verbal productions will take the form of discourse, in which learners' beliefs will still be closely linked to, or scarcely distinguishable from, knowledge-building processes (theories, experimental/empirical verification), and which will also take forms familiar to them. It is the narrative style that is most readily available for this purpose: a learner spontaneously narrating an experience as a chronological sequence of facts, activities or situations observed that can proceed by moving from one association to another. Third-person narratives can then lead to another style, as used in reports: less dependent on circumstances, not necessarily in chronological order and presupposing forms of abstraction enabling general relationships to be expressed. This path from personal narrative to reporting has to be managed with particular care, to ensure a transition from little-defined textual forms conveying knowledge, to wording that is closer to academic expression. Knowledge may also be conveyed, where the textual form is the same, through consideration and comparison of successive provisional individual versions or of collective provisional versions and individual versions of the text that is to be produced.

Thus a personal narrative can be a sort of gateway to a report (on practical activities, experiments, observation), itself in chronological order, but no longer subjective (line 1): moving from "I run and my heart beats faster" to "When I make an effort, that makes my heart beat faster; physical effort raises my heartbeat; physical activity generates a faster rate of heartbeat".[25] From spontaneous concrete descriptions by young pupils of their own experience, we move towards more abstract and independent categorisations of observational contexts. These are formulated in words or short oral utterances: it is mainly this vocabulary that will serve as a bridge enabling teachers to reformulate and move towards conceptualisations of these personal experiences, using terms that they explain, or by using symbols.

From presentations and textbooks to structured academic texts

Presentations given by teachers, or which they ask pupils to give, and the content of textbooks in particular bring pupils into contact with a genre of structured text that tends no longer to show any trace of the drafting process (comparable to a process of negotiation), especially in the case of published texts no longer accompanied by provisional versions (drafts). Now, all three genres (presentations by teachers, by pupils or content in textbooks) are used for knowledge transmission, which is a non-primary form of academic writing (not intended to be read by specialists). It is, however, the only form of academic writing with a significant presence in education. These forms, too, are a place where knowledge is expounded and discussed, knowledge that is not new but considered to be established. They are generally comparable to forms of academic communication among specialists.

In practice, these genres (textbooks, presentations by the teacher, etc.) do not take the same form as texts circulating within academic communities such as reports, articles in specialist journals and theses. They are texts that circulate knowledge outside those specialist and research communities, reaching out to students or the general public (for instance popularised through television programmes, magazines, and encyclopaedia-style texts), whether written by specialist journalists or researchers themselves. At any rate, such forms are able to provide a bridge to specialised academic expression.

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25. According to G. Vigner (undated): *La langue des disciplines*, photocopy.

To prepare pupils for these genres designed to expound knowledge, they will be asked to produce complete, short texts, and subsequently longer and more complex ones, and told that these need to be read and understood outside face-to-face real-time communication situations. In conventional fashion, the emphasis will first be on receiving and understanding, moving on subsequently to production, using model-based teaching.

All these genres have been codified to a greater or lesser extent over time. Some are not specific for conveying academic knowledge, since they have other functions in social communication (in the economic sphere, for instance). Nor are they universal, because academic writing differs in different languages and cultures, in the same way as it has followed different rules throughout the history of science. Contemporary and local forms will be favoured where school pupils are concerned.

Written texts may also be used for learning purposes: copying or reformulating what appears in a textbook or writing one's own summaries may lead to a degree of proficiency in structured written genres.

The fact that the forms of academic writing that pupils need to learn vary across subjects also needs to be taken into account: formatting may be relatively strict in the exact sciences and in technological spheres, whereas this tends to be more open and unpredictable for subjects connected with the social sciences, literature and the arts, where a major role may be played by complex argumentation or comments.

This discursive path, which advances along three lines, with progression and distribution between subjects dependent on the syllabus, leads:

▶ from interaction with peers or teachers with whom knowledge is collectively built to individual appropriation of knowledge, with the ability to provide feedback and reproduce that knowledge in a coherent textual form;

▶ from oral forms (with frequent rephrasing) to written forms, from which the hesitations and successive approximations have been removed, via provisional, exploratory written forms (rough drafts, notes, outlines etc.);

▶ from understanding to production, via model-based teaching;

▶ from spontaneous, improvised texts in ordinary communication to texts conforming to explicitly defined conventions based partly on the nature of each school subject;

▶ from personal accounts of experience to texts of an academic nature (reports on experiments or observations, problem solving etc.).

For plurilingual and intercultural education, it is vital to expose learners, in clearly identified teaching sequences, to many forms of writing. The experience of reading, reformulating and producing these forms is essential to familiarise learners with the multitude of academic and educational cultures of contemporary societies, and with the many verbal forms given to knowledge.

4.3. VERBAL CHARACTERISTICS OF ACADEMIC EXPRESSION

In order to move from the genres used for ordinary communication (conversations, narratives, personal opinions, expressions of feelings, etc.) to a type of academic expression compatible with the nature of the knowledge taught at school, it is necessary to master the specific verbal forms required.

4.3.1. Objectivisation

This means the ability to produce utterances not centred on the individual (I/you) and the context (here/now), but possessing a degree of generality that is independent of those parameters. Such academic expression[26] is often said to be achieved in texts described as succinct, precise, explicit, complex, structured, objective, detached, unemotional, unambiguous, etc. (see Chapter 2).

In the school context, pupils can achieve production of this kind by mastering:

▶ the appropriate terminology (a typical example would be the use of "precipitation" as opposed to "rain") and its usage; repetition of the same term is regarded as a precondition for clarity and consistency;

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26. The term "academic discourse" is also used, particularly in English-language literature, where a distinction is readily made by authors such as Jim Cummins between "cognitive <u>academic</u> language proficiency" (CALP) and everyday language and interpersonal exchanges ("basic interpersonal communication skills") (BICS).

- personal pronouns ("The eagle is a bird of prey. It …") and generic terms ("element", "substance", "problem", etc.) reflecting the conceptualisation (for example, "honey" replaced by "substance": "Much less honey was produced. This substance …");

- objectivised forms of quantification and location in time (beginning, interval, frequency, duration, etc.), that are not assessed or identified in relation to the speaker ("It is too hot", that is for me personally);

- words emphasising relationships in terms of enumeration, time or logic, particularly in the form of conjunctions, co-ordinating ("moreover") or subordinating ("since"), in places where juxtaposition may suffice in oral discourse ("He was late. I left.");

- ways of expressing certainty (general statements in the present indicative: "Water boils at 100 degrees."), doubt, possibility, limitation, etc.;

- the use of conventional assessments ("important results", "interesting findings", "plausible theories", etc.).

These are all ways of expressing findings and relationships non-subjectively. But they alone are not enough to construct texts, as they do not correspond to any text model of an identified genre.

4.3.2. From cognitive-linguistic functions to their linguistic forms

Pupils can also be taught to produce oral or written texts centred on a specific cognitive activity, such as comparing, deducing, demonstrating or defining. These texts do not transcribe actual intellectual operations (which are not observable), but report them. They may occur in isolation in interactive oral discourse or take the form of texts from an identified genre. They will be described here in terms of cognitive-linguistic functions,[27] reflecting their intrinsically dual nature. They are designated by non-scholarly terms present in ordinary vocabulary: verbs (and nouns) that designate both processes of knowledge building and verbal forms.

It is not easy to draw up a coherent or ordered typology, or even a model of these sometimes ambiguous functions, the denomination of which depends mainly on the language concerned and its lexical resources. From the educational point of view, this is not essential: it is enough to have available a list of the most used functions in the texts that pupils are asked to read, and especially those most useful for producing texts. It may be considered appropriate to get pupils to think about some commonly used cognitive-linguistic functions, which take the form of text segments (several paragraphs) or entire texts, for example:

- describing, which presupposes enumerating, characterising, locating, quantifying, comparing or assessing (non-subjectively);

- narrating, which is a "description" in time and also brings into play relationships in terms of, for example, simultaneity, duration, frequency;

- arguing, which involves expounding a theory, introducing an argument or a secondary argument, refuting, correcting, conceding, etc.;

- informing or expounding knowledge, which also involves explaining, interpreting, defining.

Some of these functions may be used in isolation, such as defining, putting forward a theory, classifying or categorising. All presuppose a command of the corresponding linguistic resources accepted in written academic expression, which generally conforms to a formal socio-linguistic standard (see Figure 4.1).

Figure 4.1: Example of a scientific description[28]

> "An electrical circuit must include a power source. A switch enables the circuit to be opened and closed: the current flows in a closed path, not an open one. The circuit may be represented diagrammatically using standardised symbols."

Language by language, on the basis of the lexicon, inventories should be drawn up of those operations considered to be useful, ensuring that their denominations are directly accessible to learners and that they are clearly

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27. These verbal representations of cognitive activities have been variously described as "functions", "textual genres" (narrative, description, order, argument, etc.), "discursive operations" (*Threshold Level*, Cambridge University Press, Cambridge, 1990), and "language operations" (representing, interpreting, confirming, comparing, justifying, etc.).

28. *Source*: Translation of an extract from a physics and chemistry textbook used in second-year classes at French intermediate schools, *Physique-chimie*, Hachette (2006).

defined in terms of textual form. It is just as vital to draw up inventories of the verbal resources used to express them, particularly on the basis of teachers' presentations and textbooks, a linguistic analysis of which is crucial.

On the basis of texts written in German, for example, the following macro functions were identified:[29]

> negotiating – naming/defining – describing/comparing – narrating/reporting – explaining/illustrating – conjecturing/hypothesising – arguing/reasoning – assessing/evaluating – positioning/stance taking

On the basis of a set of texts written in French, the following were identified:

> presenting – describing – determining/updating – characterising – situating (in space and time) – representing – explaining/reasoning – doing/acting

Based on analysis using these categories, it is possible to get back to specific linguistic forms. Definitions may be based on:

- ▶ a verb, such as "to call";
- ▶ a simple juxtaposition (whether using parentheses or not) or the use of "i.e." or of a relative pronoun, "who" or "which", one example being: "The retina is made up of two kinds of light-sensitive cells. The rods are … The cones make it possible to …";
- ▶ an example or a series of examples;
- ▶ one or more comparisons;
- ▶ a contrast;
- ▶ a paraphrase;
- ▶ the use of general terms ("caste" = "social category into which a person was born");
- ▶ etymology;
- ▶ a description of features.

One significant quality of these inventories of functions is that they may present points that are common to all the subjects taught (including the language of schooling as a subject), ensuring the cross-cutting dimension that is essential in education. This is all the more necessary because genres vary, to differing degrees, from one subject to another. It is impossible to describe here the language resources necessary for the proper realisation of all the cognitive-linguistic functions referred to. The descriptions that exist in each language may be referred to, or descriptions requested from analysts of academic discourse. It is also worth looking at the "threshold levels" or the *Reference Level Descriptions for national and regional languages*,[30] which may have some entries based on cognitive-linguistic functions. That approach is exemplified in the texts of "A platform of resources and references for plurilingual and intercultural education", particularly in the text on "Languages and school subjects – Linguistic dimensions of knowledge building in school curricula".[31]

4.3.3. The structure of texts

The acquisition of knowledge through verbal formulations means that pupils must be taught to read and write texts corresponding to the requirements of academic communication. Some of the general features of these genres have already been indicated (see 4.3.1, "Objectivisation"). Their main qualities are their "legibility" and their explicit nature, which make discussion and transmission possible. Care should therefore be taken with the structure of their sections, that is paragraphs. Paragraphs are often arranged on the basis of recurrent patterns, making them predictable, for example:

- ▶ there is a link with the previous paragraph;
- ▶ the subject/assertion/thesis/main information is set out;
- ▶ reasons are listed or placed in order;
- ▶ there are individual or interconnected examples.

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29. These inventories were also translated into French from an English version.
30. www.coe.int/lang ("Reference Level Descriptions for national and regional languages").
31. www.coe.int/lang-platform ("language(s) in other subjects").

The paragraph in Figure 4.2, from a text aimed at a general readership about the discovery of new foods in the 16th and 17th centuries, follows this kind of pattern.

Figure 4.2: Example of a descriptive paragraph[32]

"In some fields, such as that of fruit and vegetables [**announcement of the paragraph structure**], a full-scale revolution took place during this period [**thesis**]. First of all, a certain number of vegetables were brought in from Italy. Some of these were old acquaintances which had been considerably improved by that country's farmers [**1st specification of the thesis; level 1 example: vegetables**]: these included asparagus, artichoke, sorrel, beetroot, cardoon, cauliflower and peas [**level 2 examples**]. At the same time, new techniques were introduced in an attempt to improve fruits indigenous or long acclimatised to France [**2nd specification of the thesis; level 1 example: fruit**]: pears, apples, peaches, plums, melons and strawberries, which, by dint of patient selection, became very different from their rustic relatives [**level 2 examples**]. Lastly, efforts were made to acclimatise certain plants newly arrived from America [**3rd specification of the thesis; level 2 example: vegetables**], such as the Jerusalem artichoke, peppers and, especially, tomatoes and beans [**level 2 examples**]."

It may be expected that presentations by teachers and the contents of textbooks be organised in this way, making it easier for learners to follow them. It should not be forgotten that exposure to texts structured in this way may help learners in their own oral and written productions.

As already pointed out, genres may differ widely according to subject and educational context. The observations above are therefore confined to outlining principles on the basis of which it is possible to prepare and put in place practical activities in the classroom to familiarise pupils with these forms of expression, necessary to academic communication, the role and functioning of which should also be clear. It is important to give pupils the ability to use these forms of expression, through their systematic use during practical and reflective activities that cut across the range of school subjects.

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32. *Source*: Translation of an extract from François M. (ed.) (1972), *La France et les Français*, [*L'alimentation*], Encyclopédie de la Pléiade, Gallimard, Paris.

Chapter 5
Language diversity, subject literacy and academic achievement

5.1.　POINTS OF DEPARTURE

The world is irreversibly multilingual,[33] and this includes our schools, the socio-cultural context in which young people grow up, and the global scope of virtual reality created by digital media and communication technology. A superficial look into most of today's classrooms reveals a broad spectrum of diverse language biographies. Hans-Jürgen Krumm quotes a 12-year-old boy talking about his languages:

> My languages are Italian, Hebrew, German, English, Japanese, the Styrian and Viennese dialects. German is my first language. I study English at school. In Hebrew I only know one word: Shalom (peace), which we have learnt in religious education. My father speaks Styrian. The Viennese dialect I can hear every day. I practise Jiu-Jitsu, a Japanese sport, meaning "gentle art". Once I was in Italy and I talked to an ice-cream vendor.[34]

Obviously living in or close to Vienna, the boy most certainly has encounters with many other languages. The above-mentioned example of a more or less plurilingual student already indicates that language diversity at the school level has several main facets:

- ▶ the dominant language of schooling (like German in Germany and Austria, Czech in the Czech Republic or French in France, parts of Switzerland and Belgium) and its functional variety for teaching and learning across the curriculum;
- ▶ the foreign languages taught as school subjects including provision of content and language-integrated learning (CLIL), that is teaching physics through French as a foreign language;
- ▶ the languages or language varieties students grow up with in their families that are different from the dominant language used for teaching and learning at school:
    - – regional or minority languages, for example West Frisian, Limburgish, Dutch Low Saxon, Romani and Yiddish in the Netherlands, under special protection through the European Charter for Regional or Minority Languages;[35]

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33. The word "multilingual" refers to social settings with two or more coexisting languages, the word "plurilingual" refers to individuals with a range of interrelating and interacting proficiencies in more than one language.
34. Krumm H.-J. (2014), *Bildungssprache Deutsch und das Curriculum Mehrsprachigkeit*, Vortrag, Graz, available at: www.verein-xenos. net/tagung_sprachen/krumm.pdf.
35. www.coe.int/minlang.

– allochthone languages, that is languages that are associated with a country different from the country of residence and that can develop into a socio-linguistically stable minority language (without special legal protection), for example Turkish in Germany and Portuguese in Luxembourg;

– indigenous language varieties (dialects, sociolects), which differ from the academic patterns of language use in schools, and are used by students from families of low socio-economic status.

Plurilingualism in mainstream public education has a strong potential for either positive or negative effects on students' performance and their school careers – depending on various factors: for example the social status of the languages and language varieties concerned, the school's attitudes towards language and cultural diversity and its choice of pedagogical and organisational strategies, the professionalism of teachers, national and regional language policies, regulations and curricula, demographic facts, etc.

On a supranational level, the Council of Europe's education policies strongly focus on promoting:

▸ plurilingualism of citizens to develop a degree of communicative ability in a number of languages over their lifetime in accordance with their needs;

▸ linguistic diversity of languages used in Europe as equally valuable modes of communication and identity and the right to learn and use one's own language also if it is different from the country's official language(s);

▸ mutual understanding, intercultural communication and the acceptance of cultural differences.

These three objectives are a sine qua non for democratic citizenship and the capability to participate in democratic society, provided that plurilingual competence implies literacy in the modern sense of the term (see Chapter 2), that is being able to understand, speak and write about issues of public concern on the basis of profound knowledge acquired in school across the whole curriculum. At the same time, the Council of Europe's activities take into account that social cohesion is strongly dependent on equality of opportunities for inclusive quality education and on access to successful subject-based language-learning provision that actively develops academic literacy in the sense of the term used in this handbook.

5.2. ACHIEVEMENT GAPS, ACADEMIC LITERACY AND THE ADVANTAGES OF CONTENT-BASED LANGUAGE LEARNING

Many factors have been reliably identified that contribute to achievement gaps among students of different backgrounds (for example ethnic, racial, gender, disabilities), schools and communities as well as among regional or national educational systems. The causes of achievement gaps are multiple and interrelated, and they vary from one school to another. Closing the achievement gap will require simultaneous and intensive mutually reinforcing efforts in all these areas (Figure 5.1).

Figure 5.1: Factors that contribute to achievement gaps[36]

▸ School-wide factors: tracking groups of students into a less demanding curriculum; culturally (un)friendly environments; low expectations for student achievement; lack of rigour in the curriculum;

▸ Factors in the local community: economic opportunities for students' families; access to libraries, museums and other institutions that support students' development; other factors concerning societal bias (racial, ethnic, poverty and class);

▸ Teacher and teaching-related factors: (in)sensitivity to language diversity and different cultures; quality of teacher preparation; inadequate materials, equipment and resources;

▸ Students' background: families' income level; families' educational background; students' primary language other than the dominant language of schooling; students' interest in school; students' level of effort and resilience;

▸ Families' support of students' learning: families' skills to support and reinforce learning; families' participation in-school activities, etc.

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36. Based on the National Education Association's Discussion Guide 2, "Identifying factors that contribute to achievement gaps", available at www.nea.org/home/17413.htm.

In the course of many major school achievement surveys, a strong correlation has been established between language competences (especially reading comprehension) and performance in non-language subjects (for example mathematics and sciences). Mainly, students with a migrant background performed significantly below average (Figure 5.2):

Figure 5.2: Distribution of mathematical competences according to migrant background
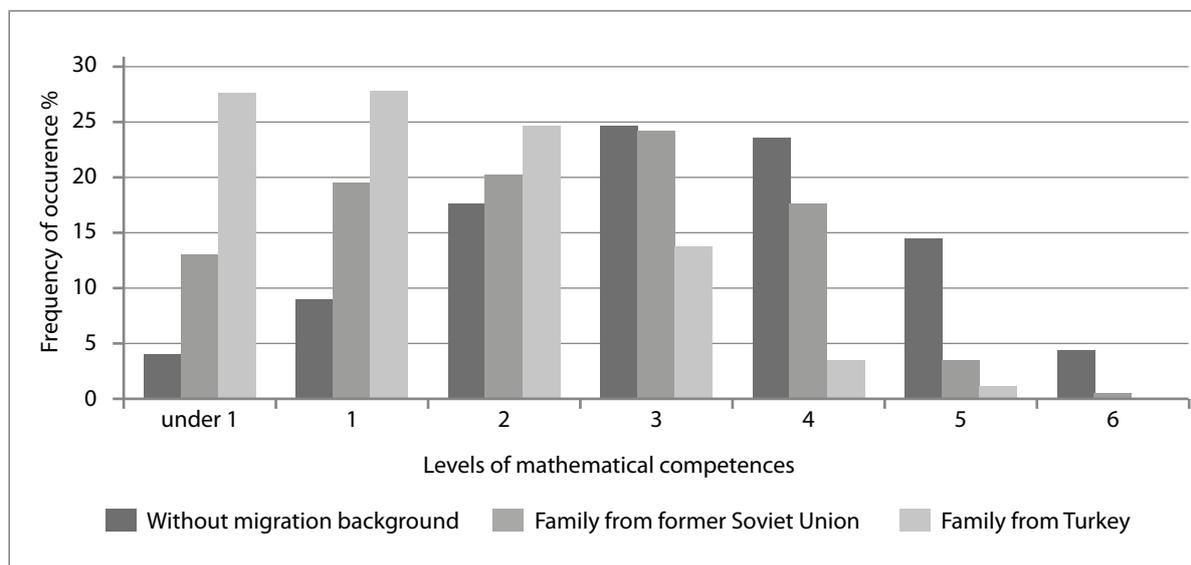
Note: 1 = lowest competence level, 6 = highest level.[37]

Thus, at first glance the linguistic background of students as learners of the dominant language of schooling seems to be accountable for achievement gaps and school failure. However, a closer look at the strength of correlations between language competences and performance in specific school subjects reveals a more complex truth.

There is strong evidence that the dominant cause of underachievement in school is the interaction of three factors: families' socio-economic status, cultural capital and language, which accounts for two facts: (a) students who grow up in the dominant language of schooling can also be part of the group labelled as students at risk; and (b) the groups of those students with a migrant family history who were born and raised in the country they are being educated in still perform below average if their families' educational background and socio-economic status have not improved. This is the point where the specific language register used for formal teaching and learning comes into play.

The strategies and patterns of language use amounting to what Jim Cummins has called (cognitive) academic language proficiency (CALP) at one end of a continuum of language performance with basic interpersonal communication skills (BICS) at the other end are likely to be transferred from one language to other languages – provided (a) that language learners have reached a threshold level of BICS (also termed conversational proficiency); and (b) that teaching and learning processes in a second language are cognitively demanding (such as literacy education, content learning, abstract thinking and problem solving).

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37. PISA results for Germany: PISA-Konsortium Deutschland (ed.) (2004), *PISA 2003. Der Bildungsstand der Jugendlichen in Deutschland – Ergebnisse des zweiten internationalen Vergleichs*, Waxmann, Münster.

Figure 5.3: Cummins' dual iceberg metaphor of language interdependence (1979, 1984, 2000)[38]
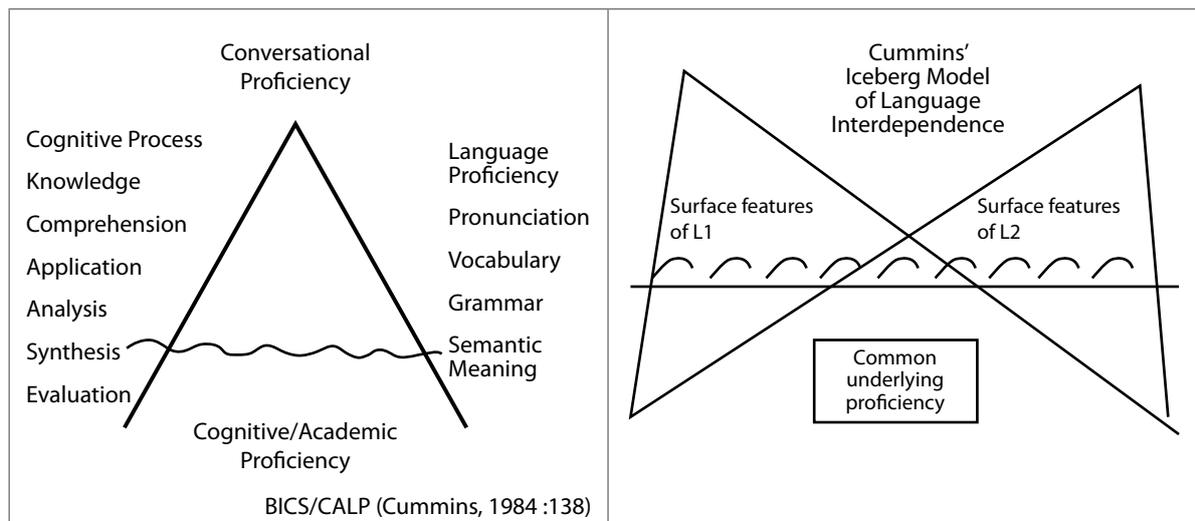
The focus on content and meaning as balanced against the focus on language form (for example grammar) as well as cognitive, highly demanding tasks has positive effects on language learning proficiency and the development of academic language skills. The conceptual model of content-based language learning implies advantages for both groups: bilingual students (with a migrant background) acquiring the dominant language of schooling as L2 as well as monolingual students from educationally distant families of low socio-economic status. The mainstream curriculum and the cognitive-academic demands of subject-specific teaching offer authentic opportunities to extend students' command of language beyond the needs of everyday out-of-school interaction.

Bilingualism is not only beneficial for young people in so far as it facilitates the acquisition of (academic) literacy in a second and even other languages. It also tends to influence cognitive development in a positive way. In the past, bilingualism used to be approached with a subtracted view, that is it was believed that learning a second language would take up a considerable share of one's cognitive capacities at the expense of other learning. However, empirical evidence has consistently demonstrated the advantages bilinguals have over matched monolingual peers in several aspects of cognitive development and ability in general areas of aptitude such as perception and executive functions (for example problem solving, mental flexibility, attentional control, inhibitory control, and task switching). An explanation offered by Bialystok and others (quoted on Wikipedia) offers an explanation for this greater ability of bilinguals to selectively attend to the important conceptual attributes of a stimulus:

> It may stem from the bilinguals' constant need to inhibit competing labels in their two languages for one object according to the currently relevant language. Bilinguals have different representations in each language for similar concepts and therefore need to constantly be aware of which language they are using and which the appropriate word is to be used in that context. This culminates in an advantage of cognitive control, since the ability to switch between languages and select the appropriate word for use is directly linked to the ability to better attend to relevant, or inhibit irrelevant, information.[39]

5.3. PROVISION FOR STUDENTS WITH NO OR VERY LIMITED PROFICIENCY IN THE DOMINANT LANGUAGE OF SCHOOLING

Most educational systems around Europe and in other parts of the world have a considerable number of students who are unable to profit from mainstream education because of their lack of basic skills in the dominant language of schooling. These students may be born in the country of residence or may have recently arrived from other countries with different languages in use, with diverse cultural backgrounds and school experiences, and a wide variety of strengths and needs. On the one hand, there are children who have arrived from other EU countries on the basis of their right (and that of their family members) to move and reside freely within the territories of the member states or from countries outside the EU as part of a voluntary, legal immigration process. If they are of school age, most often they have received formal education in their home countries. On the other hand, there are:

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38. *Source*: Cummins J. (1984), "Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters", *Working Papers on Bilingualism,* 19, 121-129; Cummins J. (1982), "Die Schwellenniveau- und die Interdependenz-Hypothese: Erklärungen zum Erfolg zweisprachiger Erziehung", in Swift J. (ed.), *Bilinguale und multikulturelle Erziehung*, Königshausen & Neumann, Würzburg, 34-43.

39. http://en.wikipedia.org/wiki/Cognitive_advantages_of_bilingualism.

children who have arrived as a result of a war or other crisis in their home country, and who may have left their homeland under conditions of extreme urgency. These children have often suffered traumatic experiences, and may also be separated from family members. They may have been in transit for a number of years, or may not have had access to formal education in their home country or while in transit.[40]

A third group of language learners has been born and raised in the country of residence as members of an allochthone or an autochthone (regional) minority group that has maintained its distinct cultural and linguistic traditions (for example Turkish children growing up in a predominantly Turkish community in one of the big central European cities, or French children living in a rural Catalan area).

These children and adolescents need special language-learning provision with the prevailing objective to enable them to follow lessons in mainstream education as soon as possible in order to facilitate their inclusion. Strategies, pedagogical concepts and organisational models for such initiating programmes are manifold depending on circumstances (for example demographic facts, professional qualification of staff), official language policies (assimilationist v. pluralistic)[41] and tacit attitudes towards linguistic and cultural diversity. The following sections deal with some of these strategies.

Submersion

Students are placed in regular mainstream classes along with linguistically proficient native peers. It is expected that newcomers will learn subject-specific content in the dominant language of schooling, even though they may still be struggling with basic communicative means in the dominant language of schooling. Quality education and its efforts to establish inclusiveness and equity are not compatible with this Darwinistic "swim or sink" philosophy of submersion programmes, which are probably the least efficient. In some countries, these programmes are against the law since they do not render the services to which such families are entitled.

Withdrawal and additional support concepts

As a matter of principle, language learners are mainstreamed into regular classes. However, they receive special L2-tuition (that is, in the dominant language of schooling) either by being withdrawn for a certain span of time (from 20 minutes up to several hours per week) from regular classes or by receiving additional teaching time after regular hours. Both the submersion and the withdrawal/additional support concepts tend to focus on language form rather than content. For students with a migrant background, their outcome can be classified as subtractive bilingualism, that is students will eventually lose their first language while acquiring their second language (the dominant language of schooling).

Sheltered instruction

The sheltered model combines second-language pedagogy with mainstream content teaching and – occasionally – with heritage language provision. Such groups are taught either by a content teacher who has specialised in second-language pedagogy or by a team. The rationale of this concept is to stick to the mainstream content curriculum as closely as possible, but make it more accessible for language learners through techniques of scaffolding and the adaptation of teaching materials to the language needs of students with diverse linguistic backgrounds. The majority of such programmes are also assimilationist.

Transitional bilingual education

Initially, language learners are taught the more cognitively demanding part of the curriculum (for example mathematics, science, history) in their first language (L1) on the assumption that this can be done on an age-adequate level. At the same time, they are taught the dominant language of schooling with focus on form. Some schools also teach subjects like music, arts or physical education in the second language to reap the benefits of content-based language learning. As students progress in the acquisition of the dominant language of schooling, the amount of teaching in L1 is reduced.

The transitional model serves as a bridge for students, helping them move from their native language to the dominant language of schooling, and any given programme may do so more quickly or more slowly. The goals

40. Ontario Education (2007), English Language Learners ESL and ELD Programmes, www.edu.gov.on.ca/eng/document/esleldprograms/esleldprograms.pdf.
41. Baker C. (1993), *Foundations of bilingual education and bilingualism*, Philadelphia: Multilingual Matters.

of transitional bilingual education are still assimilationist, and the outcome is generally subtractive bilingualism. Still, it is hoped that these programmes will provide the content-area support to enable these students to remain in school.[42]

Maintenance and dual-language education programmes

Students are taught literacy and academic content in the dominant language of schooling and in their first language with the objective of developing high levels of language proficiency and literacy in both languages. These programmes – though differing in many organisational aspects – promote additive bilingualism and language pluralism. In some countries, the country of origin assumes financial (and sometimes pedagogic) responsibility for the L1 part of teaching with the intention of strengthening a positive attitude towards cultural heritage and socio-cultural knowledge. In other educational contexts, the authorities of the country of residence employ bilingual teachers mainly with a migrant biography and socio-cultural know-how to facilitate the integration process. L1 provision may be integrated into the ordinary school day or be organised as additional support in the afternoon. A precondition for such programmes is a sufficient population of L1 families in the catchment area of a school.

Enrichment, dual, two-way or reciprocal immersion programmes

These programmes are a distinctive form of dual-language education in which balanced numbers of native speakers of the dominant language of schooling and native speakers of a partner language are integrated for instruction so that both groups of students serve in the role of language model and language learner at different times. In Berlin, for example, within the state school system there are 17 primary and 13 secondary schools (*Staatliche Europa-Schulen*)[43] with approximately 6 000 students enjoying dual immersion programmes in nine language combinations.

5.4.   PROVISION FOR THE DEVELOPMENT OF ACADEMIC LITERACY

Schools, experts and school authorities have fairly recently discovered that in order to close the achievement gap, it is not enough to systematically support language development in the very early stages (elementary and primary education). Such early intervention is necessary, but not sufficient. Also, students who have passed the threshold level and who have a functional command of the dominant language of schooling, in so far as informal interaction in everyday communication is concerned, need targeted support for the advancement of academic literacy up to the end of mandatory schooling – even up to the university entrance level.

All programmes that teach academic literacy as separate and special courses (for example general academic writing courses, academic study skills) have proved to have little sustainable effect. Instead, programmes that integrate the language dimension into subject-specific curricular planning and teaching routines show promising results (for example writing in the disciplines programmes). Educational authorities in Australia, for example, offer teachers a powerful tool for curricular planning called the literacy continuum. It is based on the following assumptions:

> While literacy comprises a complex repertoire of knowledge and skills that develop throughout the years of schooling, its practical application is at the core of teaching and learning. Accordingly, literacy is not a subject in its own right but is fundamental to all learning areas. Literacy is a general capability included in learning across the curriculum content in the NSW [New South Wales] syllabuses for the Australian curriculum. … The [literacy] continuum reinforces the need for continuity in literacy teaching and learning. It provides a "shared language" to discuss literacy development across years and across subjects. It supports teachers to assess, plan and teach literacy in their context. The continuum provides a "snapshot" of areas to focus on at particular points in time.[44]

The continuum concept distinguishes between two sets of skills. A set of basic skills – phonics, phonemic awareness and concepts about print – is essential for the acquisition of literacy. They are important for students in the early years of schooling and should be mastered quickly and so they phase out during Year 1 to the end

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42. Roberts C. (1995), "Bilingual Education Program Models: A Framework for Understanding", *The Bilingual Research Journal*, 19, 373f.

43. *Staatliche Europa-Schulen*, Berlin, available at http://service.berlin.de/senatsverwaltungen/.

44. 2013 - NSW Department of Education and Communities, Introducing the Literacy continuum K–10: supporting quality teaching in your school.

of Year 2. If these skills are not mastered early on by students, then short, sharp, explicit teaching should focus on developing and reinforcing these skills. Once they are mastered, no new learning is needed and skills will be used as part of other critical aspects, across all key learning areas.

The second set consists of five skills – vocabulary knowledge, reading texts, comprehension, aspects of writing and aspects of speaking – which continue to develop, grow and expand throughout one's lifetime. Each critical aspect is organised into clusters of learning that appear in a sequence; within these clusters, there are criteria (markers) that form milestones of expected achievement for a typical student at particular points in time. They serve basic pedagogical purposes.

The Australian literacy continuum is used for four main purposes: tracking and monitoring student achievement, strengthening literacy in all key learning areas, determining what to teach next, and communicating clear learning goals with students.[45]

While the Australian programme favours a top-down approach to academic literacy development in mainstream education with rubrics provided by central curricular agencies, the German FörMig (Advancement of children and adolescents with a migrant background), funded by the federal government and federal *Länder* for a five-year period, preferred a bottom-up strategy supporting individual communities and schools developing customised strategies and concepts for literacy development along the lines of a set of common principles, *Durchgängige Sprachbildung* (Continuous inclusive language education, Figure 5.4). These principles are structured according to three dimensions:

- ▶ the dimension of educational biographies: a gradual build-up of academic literacy skills across educational stages from the elementary to the post-secondary (vocational) level on the basis of individual needs and strengths; support of local and regional school networks bridging levels of education;
- ▶ the content dimension: co-ordinated, systemic and reflected exposure to academic language skills and knowledge across content areas and subjects; provision of schools with teaching materials and guidelines for language-sensitive content teaching across and within disciplines;
- ▶ the plurilingual dimension: taking into account and using students' plurilingual skills and competences for the acquisition of the academic register (*Bildungssprache*) and for the extension and consolidation of language-learning skills.

Figure 5.4: Three dimensions of *Durchgängige Sprachbildung* (continuous inclusive language education)[46]

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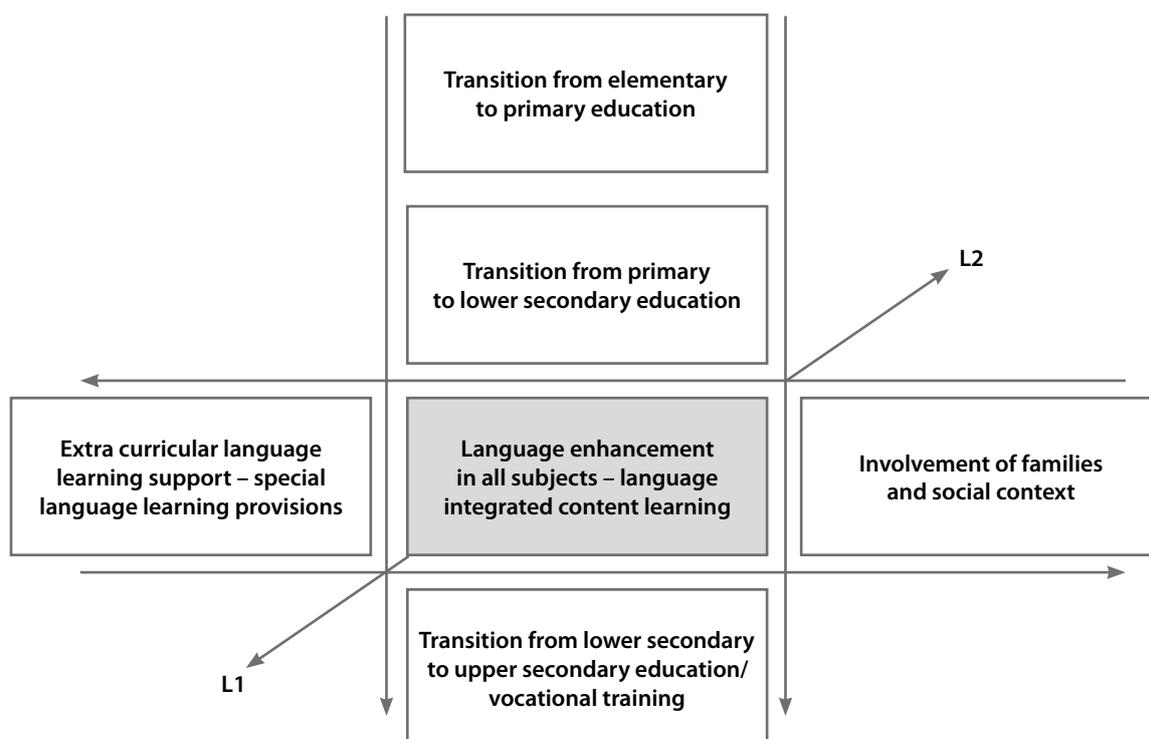
45. Ibid.
46. *Source*: FörMig Berlin (ed.)(2009), "Wege zur durchgängigen Sprachbildung. Ein Orientierungsrahmen für Schulen", p. 9.

5.5. PROVISION FOR THE DEVELOPMENT OF PLURILINGUAL COMPETENCES

Plurilingual and pluricultural competences are not achieved by adding or juxtaposing two different competence dimensions. Rather, they constitute a global and complex competence of which the speaker can avail himself or herself in situations characterised by plurality (see CEFR, Council of Europe, 2001: 4):

> the plurilingual approach emphasises the fact that as an individual person's experience of language in its cultural contexts expands, from the language of the home to that of society at large and then to the languages of other peoples (whether learnt at school or college, or by direct experience), he or she does not keep these languages and cultures in strictly separated mental compartments, but rather builds up a communicative competence to which all knowledge and experience of language contributes and in which languages interrelate and interact.

The concept of plurilingual and pluricultural competence – as conceptualised by the Council of Europe – incorporates the following components:

- ▶ the socio-affective component, which includes a certain predisposition, motivation and readiness with regard to dialogue with the other and in which the individual is willing at any time to rebuild his or her identity;
- ▶ the component of linguistic and communicative registers, which includes experience and knowledge of different languages and cultures playing different roles in and outside school;
- ▶ the component of learning strategies, which is expressed in the ability to use different ways of processing language in order to resolve communication problems;
- ▶ the component of interaction management, which takes place in situations of language contact in which speakers use and update different cultural codes to manage situations characterised by linguistic and cultural plurality.[47]

In line with the general scope of this handbook, the following comments will focus on the second component – on teaching and learning languages and their functional registers as tools for the acquisition and exchange of subject-based knowledge. Strategies and concepts for the advancement of plurilingual competences are manifold and may concern various aspects and perspectives. The following sections address such strategies.

Raising awareness of the learner's own plurality of language experiences and language competences

These are often uneven and changing, that is the profile of competences in one language may be different from that in others – for example excellent speaking competence in two languages, but good writing competence in only one of them. The European Language Portfolio[48] is an excellent tool to operationalise such awareness of the learner's own plurilingual profile and its development over time. Raising awareness should also be concerned with the plurality of languages that exists in the teaching environment and beyond. This is a very suitable topic for project work with tasks. Projects of this kind should also focus on positive beliefs in and attitudes towards cultural and linguistic pluralism.

Figure 5.5: Plurilingual competences in multilingual environments[49]

General tasks

- ▶ How many different languages are spoken in your class, school, local community? A language survey: students can design the questionnaire and plan how to display their findings.
- ▶ Get students to look at samples of language in their written and spoken forms. What are their characteristics? Script? Sound? Common words?
- ▶ If your school has students who speak different languages, make a class tape. Exchange it with another class from within the school. How many languages can the class, as a whole, recognise?
- ▶ Make a class display of all the languages that students can gather from different sources.

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47. Bernaus M., Andrade A., Kervran M., Murkowska A. and Sáez F. (eds) (2008), *Plurilingual and pluricultural awareness in language teacher education. A training kit*, European Centre for Modern Languages, Graz, p. 15.

48. www.coe.int/portfolio.

49. *Source*: Silvia Minardi: http://de.slideshare.net/silviaminardi/plurilingual-competences-in-multilingual-contexts, slide 30.

Opportunities for the acquisition of general knowledge about language, texts and communication

Such opportunities are crucial for the development of plurilingual competences. Students learn how to approach language through general concepts like "affirmation/negation", "time/tense" or "modality" and can compare how these concepts are realised in a language they already know or want to learn. In language as subject, foreign languages and other language discovery projects of this kind should also focus on genre knowledge and verbal and non-verbal communication strategies. Programmes of this kind can start very early in primary education as practical work with pedagogical formats, as "language awareness" and "*l'éveil aux langues*"[50] has shown.

A combined and co-ordinated approach to teaching and learning languages

This approach on the level of the individual school, including language as subject in the dominant language of schooling, is an indispensable feature of plurilingual education. Internal curricular links need to be established concerning basic cognitive-linguistic functions and genres according to the educational aims for the languages being taught. This also includes a choice concerning the order of introduction of languages in the curriculum with the aim of creating synergy so that students can build on knowledge and skills in one language and transfer these to the next language. This calls for a *Gesamtsprachencurriculum,*[51] namely a curricular programme for all language-learning provision with both common elements pertaining to all languages, and specific educational profiles for individual languages.

Active training of inter-comprehension strategies

This can also be an element in programmes for the advancement of plurilingual competences – especially when they are based on language awareness and knowledge about languages.

Content and language-integrated (CLIL) approaches

This follows Coyle's 4Cs model,[52] combining Cognition, Culture, Content, and Communication as cornerstones of plurilingual education, as shown in the CLIL matrix.[53]

5.6. RESUME AND OUTLOOK

Plurilingual and content-based approaches to language learning are in the process of changing daily teaching routines and curricular frameworks in many educational systems on a global scale. There is a strong tendency towards considering plurilingual skills as a resource for acquiring academic literacy and empowering students for, and adapting them to, the authentic exigencies of content teaching instead of lowering the curricular requirements for students at risk. "Dumbing down the curriculum" is no longer an option for quality education in knowledge societies.

Both approaches – content-based language learning and plurilingualism as a resource – are no longer considered exclusively a remedy for low academic achievement, but have also contributed to excellence in mainstream education. For example, a closer look at the concepts and methodologies of regular foreign language teaching shows how immersion concepts as first installed in North America have been converted in Europe to routines of CLIL as a success story that provides, in effect, "two for the price of one". Also, teaching materials for the regular foreign language classroom have undergone changes in that, even in the early stages, topics and content are imported from subjects such as geography, history, science and technology with the dual intention to motivate students (with mainly positive effects for boys who on average are slower language learners)

50. See Balsiger C., Köhler D., de Pietro J., Perregaux C. (2012), *Eveil aux Langues et Approches Plurielles. De la formation des enseignants aux pratiques de classe*, L'Harmattan, Paris. See also the FREPA website of the ECML and descriptors for plurilingual competences.
51. Hufeisen B. (2011), "Gesamtsprachenmodell: Überlegungen zu einem prototypischen Modell", in Baur R. and Hufeisen B. (eds), '*Vieles ist sehr ähnlich' – Individuelle und gesellschaftliche Mehrsprachigkeit als bildungspolitische Aufgabe*, Schneider Hohengehren, Baltmannsweiler, pp. 265-282.
52. Coyle D. (2008), "CLIL – a pedagogical approach from the European Perspective", in Hornberger N., *Encyclopedia of Language and Education*, 2nd edition (pp. 1200-1214), Springer.
53. Erwin G., Carré-Karlinger C., Fuchs E. and Lechner C. (2010), *Innovative Impulse aus dem Europäischen Fremdsprachenzentrum des Europarates*, Die CLIL-Matrix in der Unterrichtspraxis. Praxisreihe 13, ÖSZ, Graz.

and to extend their language repertoires beyond the scope of trivial everyday informal interaction. Finally, it has to be mentioned that even the teaching of the dominant language of schooling as subject (see Chapter 7) has embraced non-fictional texts, including their content, and plurilingualism and multilingual awareness with the aim of inviting contributions from students with a diverse linguistic and cultural background and to facilitate their linguistic and cultural learning beyond the study of literary texts.

Chapter 6
Building up a command of the language of schooling during primary education

The need for guidance in the curriculum to help all pupils master the language of schooling applies to all courses of education. The pointers and recommendations provided throughout this handbook relate as much to primary education as to secondary and vocational education, although the specific role of primary education in the building of linguistic competence justifies special consideration. References to "primary education" here cover both the pre-primary stage (ISCED 0) and the primary stage itself (ISCED 1).

In practice, language learning occupies a central place in primary education. Teachers at this level are sometimes even presented as language teachers. In both primary and pre-primary teaching, the focal points of educational activity are developing vocabulary, progressively mastering morpho-syntactic resources, developing the ability to understand, initiating pupils into written material, training in oral interaction and promoting personal expression.

Furthermore, since the same teacher is responsible for a significant portion, or even the whole, of the time spent by children at school, opportunities arise for linguistic support through a variety of language-use situations. But everyone involved in primary education must make sure that the omnipresence of language does not obscure the need for explicit and structured work on it outside the specific classroom periods devoted to developing competence in language. There is a risk of oral expression being regarded as the obvious mode for school activity, while written expression is not regarded, at this level, as a linguistic object in its own right. To ensure that primary education lays the foundations for subsequent language work, it is vital for specific learning objectives to be linked with the various periods devoted to oral, reading, writing or vocabulary work.

It is also worth pointing out that the effectiveness of all the arrangements made to develop pupils' language skills very much depends, especially at this level, on the establishment of clear links between work on language and the content "translated" in verbal form.

6.1.   THE BENEFITS OF DEFINING LINGUISTIC OBJECTIVES

One of the challenges of activities directed towards language use is precisely that of not regarding speech situations solely as activities to be conducted as such, but as a means of moving children towards identified linguistic objectives. Another challenge is not to focus every effort on broadening the scope of their vocabulary, because this is often regarded as an indicator of disparities among children. Teachers must also constantly question the quantity and quality of language to which children should be exposed, and which it is both possible and desirable for them to acquire, orally and/or in written form.

The objectives to pursue relate both to mastery of the different components of the language (phonology, vocabulary, morphology/syntax, pragmatic and socio-linguistic aspects, and so on) and to the ability to carry out efficiently specific linguistic tasks (genres to understand or to produce in writing or orally; level of processing of the information within a message; clear or less clear links with the personal context, etc.). These objectives differ where they relate to the understanding of oral material, understanding of written texts, oral expression and written expression.

A precise definition of the skills children should acquire in terms of command of the language is one of the preconditions for stakeholders to ensure that they have the prerequisites for successful access to knowledge and for active participation in discussions in the classroom and in their social environment. This requirement should also lead to initiatives involving consultations and regular co-operation between teachers and any other adults responsible for children at primary school.

Figure 6.1 illustrates how such objectives may be defined, in this case in the context of the Netherlands and the Flemish-speaking community of Belgium.

Figure 6.1: Objectives for speaking (pre-school children)[54]

General language skills objectives for speaking: pre-school children

Speaking (1): The pre-school child is able to answer questions directed at him/her at the descriptive level and in a communicatively adequate manner.

1.1 The pre-school child is able to answer concrete questions about his/her own life in the context of the here-and-now.

1.2 The pre-school child is able to answer concrete questions about his/her own life outside the context of the here-and-now.

1.3 The pre-school child is able to answer questions about his/her own feelings, intentions and interests.

1.4 If asked, the pre-school child is able to give a description of a relevant concrete object or of a person which/who is/was in a – to him/her – concrete situation.

1.5 If asked, the pre-school child is able, possibly with the help of gestures and pictures, to give a description of an event in his/her own life.

1.6 If asked, the pre-school child is able to explain, possibly with the help of gestures and pictures, how he/she acted in a concrete situation.

Speaking (2): The pre-school child is able to talk spontaneously, if asked, about subjects of interest to him/her in a communicatively adequate manner.

…

Speaking (3): The pre-school child is able to restate an item of information or a story intended for pre-school children in such a way that the content comes across comprehensibly.

….

Speaking (4): The pre-school child is able adequately to seek help from others.

Depending on the education system, the process of identifying linguistic objectives in the curriculum may take place in the context of a study plan, the syllabus, teaching guidelines, a school strategy or the planning of each teacher's teaching work.

This process seems essential if the specific needs of children who are not native speakers of the language of schooling are to be taken into account. Such pupils are the subject of the document from which the example in Figure 6.1 was taken. It is true that sometimes special arrangements are made for these children. In other cases, their needs are dealt with in the same way as those of the native speakers of the dominant language of the school for whom specific support is necessary, based on an assessment of linguistic competences.

Whatever choices are made in the different education systems to overcome the difficulties encountered by linguistically vulnerable children, it is possible to say that the pursuit of clearly defined linguistic objectives for pre-school and primary pupils is beneficial to all children, without exception, including those who are exposed to the school's main language in their personal everyday environment.

Indeed, the challenge thrown up by language use in the different subjects, from primary education onwards, goes well beyond the mere question of skill in using that language for ordinary communication

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54. *Source*: Verhelst M. (ed.), Van den Branden, K. Van den Nulft, D. and Verhallen, M. (2009), *Framework of Reference for Early Second Language Acquisition*, Council of Europe, Strasbourg. Under the auspices of the Nederlandse Taalunie. Available at: www.coe.int/lang-platform ("Language(s) of schooling").

purposes. Taking up that challenge is one of the paths to follow in the pursuit of equity and quality in schooling and education.

Work on language with pre-school children has much in common with such work with primary pupils. The gradual acquisition of a command of the language is always the central thread. Similarly, gradual decentring from the child's personal experience and the creation of a link between linguistic skills and reflective capacity are constant features, as shown by the words underlined in examples 1.1 to 1.6 in Figure 6.1. The scale of these efforts quite clearly depends on the children's age and the nature of the activities engaged in. A common thread is the need for the work done on forms peculiar to the language of schooling not to lead to rejection of the other forms of expression present in the class. Obviously, this applies to the other languages spoken by certain children: in the name of respect for every child, and with a view to the successful schooling of each, those languages must be positively received and recognised, even used as so many resources available to the children to master the language and acquire knowledge. It also applies to the other variants of the main language: the school's linguistic characteristics are not the only legitimate form of expression. The educational work done to mediate with the linguistic forms prevalent within the school depends on a welcoming attitude towards the linguistic forms that the children have at their command. One of the educational objectives where language is concerned is that of conveying the fact that every language is both one and varied – that each one has internal variations. When these principles are taken into account, all the teachers and other adults assisting with activities for children from the pre-school stage onwards should not only identify the linguistic objectives pursued at the different stages, but also adapt their behaviour accordingly: attaching value to the linguistic variants present in the group, taking advantage of all the linguistic resources available to the children and adapting the words they use themselves to foster the gradual building up of skills in the language of schooling. This includes the need for teachers to recognise the importance of the emotional or affective dimensions of using language. Each pupil needs to feel confident and able to engage in active uses of language as a result of the nurturing attitude of the teacher and the climate of mutual respect.

6.2.   THE "DISCURSIVE LEAP" WHEN CHILDREN START SCHOOL

All children, when they start school, experience discursive disorientation. The use at school of a language that they are supposed to know may conceal the reality of the language used as a conveyor of knowledge. The change that takes place in the balance between use of linguistic forms familiar to the children and use of academic and technical discourse specific to the creation and transmission of knowledge is of course a progressive one and should take children's abilities and needs into account. It nevertheless represents a real "discursive leap", and the school should be fully aware of this.

The analyses carried out within certain education systems show that, however progressively this is done, and even if care is taken in identifying subject-specific characteristics at primary school, it is easy to perceive the specific linguistic requirements of the different subjects present in primary education.

Table 6.1: Objectives relating to human and natural sciences[55]

Discovering the world through all the senses, including through introduction to science, social and natural sciences		
Skill: obtaining information through targeted research and then making use of it		
Core for cycle 1 (ISCED 0)	Level 1 Pupils know a few indigenous plants (flowers and trees) and a few animals and their environments (domestic, farm and woodland animals). They start to grasp their temporal situation (present, past and future) and their own local environment.	
Core for cycle 2 (ISCED 1)	Level 2 Pupils name and locate the main parts of their faces and bodies. They compare two plants or animals on the basis of set criteria. They classify personal experiences in chronological order and describe the place where they live.	Level 3 Pupils learn about the basic functions of a few parts of the body. They draw up their own family tree. They compare the properties of various simple tools.

_____

55. _Source_: Extract from _Niveaux de compétence – Enseignement fondamental – Cycles 1-4,_ Ministry of Education and Vocational Training – Government of the Grand Duchy of Luxembourg, 2011; available only online.

Core for cycle 3 (ISCED 1)	Level 4 Pupils give a concrete description of the development of an animal (such as a frog) or a plant, as well as of the transformation of raw materials into a final product (such as bread). They carry out simple research into the previous generation's ways of life.	Level 5 Pupils know how to use a simple identification key and they obtain information about the services of a public institution (such as their own municipal council). Within their own environment, they identify indications enabling them to reconstruct past ways of life.
Core for cycle 4 (ISCED 1)	Level 6 Pupils find out about the basic facts relating to vital functions and puberty. They use an atlas or digital maps to locate local geographical features. They classify major historical developments along a timeline and can name the major periods of history (prehistory, Antiquity, Middle Ages, etc.).	Level 7 Pupils list some fundamental features of elements (water, air) and analyse living beings on the basis of their typical features. They make use of pictures, graphs, tables or texts on specific issues (such as industrialisation in Luxembourg) and compare ways of life in different eras.

Of course, as is clear from the example in Table 6.1, knowledge may be passed on via the use of non-verbal semiotic systems (symbols, formulas, maps, plans, etc.). Verbalisation occurs sooner or later.

The same example also illustrates a fundamental feature of the linguistic dimension of primary education: at this stage of their schooling, the aim is basically to take pupils away from discourse centring on themselves and their here-and-now, as in ordinary communication, towards forms of texts appropriate to the cognitive-functional operations (see 6.3.2) involved in the study of different subjects. The first form taken by this decentring of expression is the transition from use of the first person to the third person in narrative.

Ordinary genres, such as conversation, do have their place in the world of education, but essentially as an educational resource for accessing new genres that need to be acquired and fall outside the natural experience of children. An explicit and conscious taking into account of the distance between these genres is one of the preconditions for combating pupils' inequality in terms of knowledge and difficulties at school.

6.3.   APPROPRIATE STRATEGIES FOR PRIMARY EDUCATION

Specific educational strategies are needed to foster the progressive decentring referred to above.

It is quite clear that narrative provides an effective means of gradually making children move on from spontaneous use of the "I-here-now" to use of the third person. In that context, encounters with literary texts play an important role in the development of language skills. They foster both the development of strategies for gaining access to meaning, by bringing into play children's knowledge about the characteristics of the narrative and encounters with cultural elements. And finally, they enable pupils to assimilate the structure of the narrative itself, facilitating the learning process in general. This approach characteristic of children should then be used to move them on from narrative to reporting and to objectivised discourse.

6.3.1. The role of verbalisation

Undeniably, one of the main methods used to move children to objectivised discourse is the creation of situations in which pupils engage in oral interaction. Whether in the context of basic scientific activities (looking after school gardens, observation exercises in woodlands, etc.) or of schoolwork (solving mathematical problems, etc.), the aim is to encourage exchanges among children as they go about their investigative activities (see Figure 6.2). Questions, first impressions, opinions, suppositions, exploring the children's own theories, identifying the reasons for disagreement, all are ways of moving from stating the obvious to comparing and justifying opinions under the teacher's guidance. The teacher can also offer support during verbalisation of the drawings, plans, outlines or models that play an important part in the transition to abstraction. Written work is important and plays a significant role, particularly in the development of comprehension skills, but oral work should not be neglected, whether in pupil-pupil or teacher-pupil interactions, or on an ongoing basis.

Figure 6.2: Example of a maths trail[56]

> **Maths trails for elementary school**
>
> A maths trail consists of a sequence of stops along a pre-planned route. This can be arranged in the classroom, in the school building, or, preferably, outside the school in the city, in a department store or in a museum. Maths trails outside the school are more appealing to the children because it makes it more adventurous. At each stop students are confronted with a mathematical task or problem. For the sake of the language, focusing on one competence area (e.g. perimeter and area or measurements) has proved to be more effective. Words, sentence stems and other language components can be controlled and offered as scaffolds. At one of the stops the task could be:
>
> Find the perimeter. Describe what you did in order to arrive at a result.
>
>
>
> This would come along with supports/scaffolds and model texts, for example a definition:
>
> The perimeter is the distance around the outside or edge of a shape or area.
>
> There might also be hints and tips, for example: "It is tempting to just start adding the numbers together, but that will not give us the perimeter. The reason that it will not is that this figure has six sides and we are only given four numbers. We must first determine the lengths of the two sides that are not labelled before we can find the perimeter."
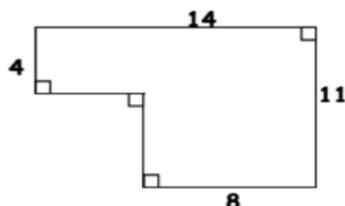
It is vital here to base these oral exchanges and cognitive-linguistic operations (explaining, describing, narrating, giving and justifying a viewpoint, etc.) on school-related matters, rather than on out-of-school experiences not shared by all.

The verbalisation of approaches, stages in a process or knowledge summaries gives the teacher an opportunity to get all the pupils to collectively think about the learning processes under way, thus fostering the development of metacognitive capacities. It should be noted that making an oral presentation to the group not only enables language skills to be developed, but also boosts the self-esteem of all the children who are called on to present their results to their classmates. It is useful if reflective activity of this kind is accompanied by written material setting out newly acquired knowledge in a clearly explained way. Such written summaries produced by the pupils themselves will make assimilation and memorisation easier.

It is also necessary for requirements to be set in respect of (practical, syntactical and lexical) aspects of the expected texts. Pupils should be aware that they are expected to express themselves in ways that are not spontaneous oral expression.

Figure 6.3: Example of verbalisation activities[57]

> During a field trip, the pupils of a French second-year elementary class (third year of ISCED 1) made an October visit to a farm where endives are grown. They were shown the facilities, a field of endives and endives at different stages of development. They listened to explanations of the sequence of operations involved in endive production.
>
> They took notes.

---

56. *Source*: www.asu.edu/courses/mat142ej/geometry/Geometry.pdf; http://britton.disted.camosun.bc.ca/geometry/NCTM_Math_Trail.pdf and www.primaryresourcecentre.com/ourshop/prod_854552-Area-Perimeter-and-Volume-Poster-Display-Pack.html.

57. *Source*: Based on *Eveil scientifique et modes de communication, Recherches pédagogiques 117*, Institut national de la recherche pédagogique (INRP), 1963, pages 49-52.

> Back in the classroom, they were divided into groups to write reports based on their notes on one of the subjects dealt with during the visit. These were to be presented to the other groups.
>
> One group dealt specifically with endive development. The document was posted up and presented to the other children, but they had a great deal of difficulty understanding, in particular, the production process. The writers themselves had the utmost difficulty answering the questions raised by their classmates and getting their observations in order.
>
> The need for a second document soon became apparent. The teacher reminded the children that they had brought back from their visit endives at different stages of development (from the field and at the beginning and end of their cultivation under glass).
>
> The group got back to work, on the basis of the endives brought back, notes taken and initial document. It wrote a second document, again communicated to the others, and this one proved to be comprehensible, with the authors proving capable of giving an oral commentary.
>
> That second document shows how the successive communication exercises helped to improve the understanding of the processes being described.
>
> The initial communication at the time of the visit only enabled the children to put specific questions. It provided them with a lot of information, but they were unable to structure it.
>
> The second, oral, communication in the classroom showed up deficiencies and faced the group with questions that it had not identified. This persuaded it to return to its notes, observe the products brought back and rewrite the report.
>
> The third communication, also in the classroom, enabled the group to put across structured content, evaluate its understanding and production and move on towards the subsequent stages.

In the example set out in Figure 6.3, it is possible to follow the development of the written traces, from haphazard, allusive and elliptical notes to the final document, with progress in verbalisation running in parallel to that in comprehension. Interaction between the oral and written communication activities helps with structuring information and understanding the process.

6.3.2. The place of the report

The approach entailing verbalisation of observations, experiments and ideas described above is in fact an organised transition from narrative to reporting. This kind of text is not within the ordinary individual repertoires of pupils, and has to be learned during primary education. Verbalising the cognitive processes used to build or expound knowledge, such as calculating, classifying, comparing, describing/representing and deducing, requires identifying the appropriate linguistic resources. The report is just an early form of academic genre, still lacking differentiation and intended for school use. Learning to write such reports is nevertheless a strategically vital stage in the development of the cognitive-linguistic capacity required to build and make use of knowledge. Pupils gradually learn how to do this through mediation activity by teachers based on ordinary genres, such as conversations. The place of writing is clear for all subjects. The time allowed to pupils for paraphrasing and for setting down in writing their research, the process of trial and error involved, and the things that need to be memorised, is valuable language work time.

Learning how to write reports occupies a particular place in this context and is vital to objectivisation processes because this kind of text entails, for example, specifying (circumstances), describing (appearance and process), establishing relationships (means, end), measuring, expressing doubts/reservations, generalising, comparing, describing and classifying. This genre comprises essentially cognitive-linguistic operations, that is verbal representations of the cognitive processes activated in processing or expounding knowledge.

6.3.3. The cross-cutting dimension of language work

There is no classroom activity where speaking is not required and where texts are not used in support or written material is not the outcome. Each activity brings both oral and written language skills into play, and should therefore afford an opportunity for building up mastery of the language in its specific aspects (organisation of a text, logical connectors, etc.). Particular attention should be given, in "academic" activities too, to personal

writings or summaries, either handwritten or word processed. The versatility of many primary school teachers should make this cross-cutting learning easier and more effective.

The findings made with regard to a difficulty experienced by teachers in applying what has been learned during language time to other class activities show that many teachers require clear explanation of the links between subjects, particularly those that help to build up a command of language. In every field, it would be desirable to identify working goals, situations and methods, and target competences, so that work on language can be the subject of true cross-disciplinary learning, both in writing and orally, in production and reception. Similarly, recommendations of this kind should emphasise the need to vary the genres placed before pupils in the different subjects. Looking beyond fictional texts, it would be useful to allow pupils to experience reading a wide range of texts associated with the subjects under study (didactic materials, made-up or travel stories, biographies, etc.), complementing their essential literary readings.

All these procedures help to raise awareness among both teachers and pupils of the differentiation between the genres used at school. The pursuit of clearly identified objectives and the reflective activities expected of children in the context of mastering the language provide an effective preparation for what will be expected of them in secondary school.

Chapter 7
Language as subject

O nce it is accepted that language is central to all subjects, it is necessary to ask whether this view affects the way in which the role of language as subject is understood. The term "language as subject" is used here to refer to the teaching of French in France, German in Germany, etc. Of course teaching a second or foreign language is also strictly speaking "language as subject" but "language as subject" is being used here to refer to the teaching of a national/official language (and its associated literature). Before the arrival of ideas about the importance of literacy in other subjects, language as subject was seen as having the main responsibility for developing proficiency in the language of schooling and for ensuring that learners had the necessary language skills to function in society. According to this view, language as subject was seen as a "service" subject: in other words, it was seen as providing a service by teaching the necessary language skills that were then put to use in other subjects. There was a separation between the acquisition of skills in one context and their application elsewhere. However, if the responsibility for language education is now borne by all subjects, what is the specific role of language as subject? In most cases, language as subject still retains a special role in the teaching of literature, but the question remains whether language as subject also has a unique or special role in the teaching of language. Are there particular elements of language that are only dealt with in language as subject? How can the links between language as subject and other subjects be promoted? Should language as subject take the lead in determining in detail the approach to general language education in a school? Describing the relationship between language as subject and language in other subjects is not straightforward because there have been, and to some extent still are, different views of how language as subject itself should be taught. In order to examine that relationship, it will be helpful to look briefly at developing ideas about the teaching of language as subject.

7.1.   APPROACHES TO LANGUAGE AS SUBJECT

With the advent of compulsory education, the first approach to language as subject in many countries was narrow, with a primary focus on reading and writing, dealing with a limited range of texts and restricted genres of writing and ranges of audiences. There was less focus on meaning and context, and more on decontextualised language including routine exercises. Grammar was largely taught as a process of mechanical labelling. When students spent most of the time writing, the focus was on product and correctness with little attention to process or audience. Systems and structures were prioritised, but there was less attention given to communication, meaning, context, use, and the functions of language.

Influenced by a range of disciplines, ideas about what is involved in developing literacy evolved with the recognition that language develops more by being used in meaningful contexts than it does by training in skills. There was a change in the way the relationship between language and learning, and language and identity was understood, with language being seen less as a disembodied tool, but as being more closely integrated with thinking, including how we make sense of the world. In some countries, the broadening of aims in language as subject strengthened ideas about personal growth and self-expression. The importance of oral language was more strongly recognised, as was the need to integrate in practice the modes of writing, reading, speaking and listening. Creativity, feeling and reading for meaning and enjoyment came to the fore, as did the importance of expressing opinions and giving personal responses. This approach to language as subject is sometimes characterised as "language in use" or "immersion" because it is key that students actually use language in ways that have real meaning for them. This emerged from the growing focus on functions of language (see Chapter 2). "Language in use" was thus developed in contrast to the idea of focusing primarily on decontextualised exercises to practise parts of speech or using texts simply to analyse aspects of grammar.

This approach to language sat alongside wider developments in teaching and learning that embraced pupil-centred thinking and emphasised engagement, motivation and enjoyment. It also had parallels in foreign language education with the move to more communicative approaches to teaching. The "language in use" approach was in many respects sound, but in its more extreme manifestations it was seen as flawed in that it went too far in emphasising holistic, organic and natural language growth without recognising sufficiently that language development is not entirely natural. Basic conversational language is acquired fairly naturally, even by children who enter a school system late, for example as a result of migration, but this is not true of academic uses of language or of reading and writing. The early teaching of reading illustrates this well. A narrow emphasis on the skills of reading that focuses on reading for pleasure without attention to purpose and motivation, for example, is unlikely to succeed. On the other hand, students need to be able to recognise letters, sounds and combinations of letters, and they will not necessarily be able to achieve that ability by simply practising reading. It is not a question of phonics set against "whole language" or language in use but phonics within language in use. Similarly, with the case of grammar, current research recognises the value of acquiring grammar knowledge, but grammar should be introduced to support writing and reading, not taught as an entirely separate component.

Language in use as an approach to language as subject is, therefore, now generally thought to be necessary but not sufficient. Many aspects of language acquisition do not develop naturally but need specific teaching approaches. Other developments in language as subject that have gone beyond a "pure" language in use approach include: a broadening of the range of reading and writing (in some versions of the holistic approach there was a tendency to emphasise narrative at the expense of other forms of language); recognition of the importance of the varied functions of language; recognition that reading is not a passive process but embraces both skills and strategies; recognition of the importance of meta-cognition, using terms to identify features of language; and giving greater attention to issues of progression and depth.

The emphasis on meaning and context in language as subject also introduced an emphasis in some countries on "genres", which advocates saw as giving more direction and structure to teaching. The term "genre" as a means of categorising different types of written or spoken texts seems at first straightforward and appears to provide a focus for constructing a systematic language syllabus. There are, however, different ways of catego-rising texts, for example according to the author's purpose (to explain, describe, persuade, analyse, inform, entertain, etc.) or according to the way the text is presented in the social context (newspapers, letters, reports, etc.). Categories are not static; they often overlap and are not discrete: a letter can be a description of a holi-day, a letter of complaint or a message to a friend persuading him/her to go on holiday, or a combination of different elements. Advocates of using genres as an approach to language as subject recognise the value of a framework for structure and progression that was often missing from the pure language in use approach. Some critics, on the other hand, see the approach as too rigid and not faithful to the complexity of language that is reflected in specific situations.

The debate on how to approach genres within language as subject illustrates the challenge of forming synergies between language as subject and language in other subjects. The idea of describing a set of clear language-learning outcomes in a systematic and linear way that can then be "taught" in sequence and that can be co-ordinated across the whole curriculum has a certain appeal. Such outcomes are often presented in the form of descriptors (statements of intended outcomes) that can be used as the basis for assessment as well as teaching. Descriptors are valuable as long as they are used with sensitivity and flexibility.[58] Any approach to teaching language as subject needs to reflect contemporary thinking on theories of learning, pedagogy and language acquisition, recognising the active role of the learner in the learning process and the complex, non-linear way in which language develops. Enabling structures and frameworks can be very useful in provid-ing a guide to progression, with increasingly challenging language demands on the learner, as long as they are used flexibly. The key here is not so much in the structures and frameworks themselves, but the use that is made of them. Categorising language by identifying different genres is extremely useful both in language as subject and language in other subjects, as long as these categories are not employed too rigidly.

The need to be sensitive to context when teaching language and not be driven purely by mechanistic outcomes can be illustrated by a simple example. A language as subject teacher was conducting a lesson on "persuasive writing" with a class of 11-year-olds. The teacher went through a checklist of aspects of persuasive writing, including the use of rhetorical questions, flattery and emotive language. The task for the class was to write a persuasive letter to the principal of the school asking for a new sports block incorporating the techniques

58. See Fleming M. (2009), *The Use of Descriptors in Learning, Teaching and Assessment*, Council of Europe, Strasbourg, available at: www.coe.int/lang-platform ("Curriculum and evaluation").

discussed (Figure 7.1). Several of the letters attempted to use flattery, but in doing so struck an inappropriate, patronising tone, for example: "You are intelligent enough to know that ..." The teacher and students were so intent on evaluating the letter against the checklist that they were oblivious to the potential impact of the final product. It was not so much that the lesson structure was wrong but rather its implementation. An alternative approach to the same theme is presented in Figure 7.1; it is more alert to the need to make sure pupils fully understood the full implications of writing a persuasive letter.

Figure 7.1: Example of a possible approach to persuasive writing

The teacher introduces the topic of building a new sports hall in the school and engages the students in some preliminary discussion of this proposal. Groups of students are then given examples of three letters written to the principal seeking to persuade him/her that such a project would be worthwhile. The students are asked to rank the three letters according to their effectiveness in achieving their goal, and to describe the techniques the writers used which helped to make their case, and any aspects of the letters that were less successful. In the ensuing class discussion the teacher makes a list of the techniques identified, and encourages dialogue over differences of opinion e.g. whether a succinct letter or one which is more detailed would be more effective; whether the exaggerated claims in one of the letters would help or hinder the case being made. The term "persuasive writing" is only intro-duced at the end of the lesson in the context of a summary of some of the main conclusions reached. The class are then asked to write their own letters to the headteacher with a different suggestion for improving the school.

While it is important not to overgeneralise, in many countries language as subject has tended to be isolated from other subjects in school. This can be explained in part by its own history of differences of opinion and approaches, giving it an internal focus. However, in order to promote the type of synergy across subjects that is necessary for an effective whole-school policy on language teaching, it is necessary for teachers of all sub-jects to avoid the kind of traditional isolation from other subjects that was, and to some extent still is, found in schools. As has been described in previous chapters, teachers of non-language subjects need to recognise that their subject goals of knowledge acquisition, understanding and cognitive development are inextrica-bly linked with, and underpinned by, language. For the language as subject teacher, however, the reverse is the case. Here, the need is to recognise that the effective teaching of language goes hand in hand with the development of cognition, understanding and critical thinking. For example, the teaching of literature in a language as subject lesson may involve analysis, inference, exemplification, interpretation and evaluation. Such cognitive operations often remain implicit in language as subject curricula, but synergy across subjects is more likely to happen if these are made more explicit. The following section will consider the different dimensions of language as subject with a particular focus on creating links with other subjects.

7.2. THE DIMENSIONS OF LANGUAGE AS SUBJECT

It is not possible in this short chapter to provide a comprehensive overview of language as subject. A detailed account can be found in the Council of Europe's *Platform of resources and references for plurilingual and inter-cultural education.*[59] The purpose of this section is to describe briefly the different dimensions of language as subject in order to address further aspects of the relationship between language as subject and language in other subjects. Language as subject is usually described in terms of speaking and listening, reading, writing and knowledge (or reflection) about language, but in practice these elements are often integrated. This is an important principle that can also inform the teaching of language in other subjects, for the integration of the language dimensions with each other can also reinforce the integration of language elements with subject content: if a text that is used for reading is also the basis for oral work and writing tasks, then the language elements are less likely to appear as artificial additions to the subject matter.

The integration of the different language dimensions is also important at primary level (see Chapter 6). It is necessary to foster from as early an age as possible a positive attitude to and curiosity about language and to develop habits of reading for enjoyment. It is also at primary level that a basic understanding of grammar and knowledge of linguistic conventions is developed as well as skills of decoding through phonological awareness, often in teaching sessions designated for that purpose. The teaching of language, however, should

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59. www.coe.int/lang-platform ("Language as subject").

not be confined to one or two hours in the day, but should be part of the whole curriculum. In many primary classrooms, the teaching is conducted by one teacher, which makes integration with other subject content more straightforward, especially when the work is based on a theme, as is often the case, rather than separate subjects. Primary schools are often more adept at creating a classroom culture that is conducive to forming a positive attitude to language, with classroom libraries of attractive books, reading corners, displays of children's work (sometimes in different languages), book of the week announcements, etc. Many secondary schools could adopt similar practices and extend them in ways appropriate to the age group.

Speaking and listening is likely to take many forms in the language as subject classroom, including presentations both formal and informal, dialogue with peers and the teacher, question-and-answer sessions, group work, role play and drama activities. However, the importance of oral work is not captured just by listing its different formats. It has a role in the communication of ideas but also in the development of thinking. Speaking and listening is used to solve problems, speculate on possible solutions, express half-formed ideas and develop them. This type of exploratory talk through which understanding develops is significant for all subjects and needs to be guided and supported. For example, it is rarely enough simply to tell the class or small groups to "discuss", but rather the talk needs to be focused through, for example, a series of questions, concrete tasks and teacher intervention (Figure 7.2). In so doing, pupils will be directed specifically to the cognitive-linguistic operations that promote understanding such as the need to "compare", "distinguish between", "define" and "explain". Listening is sometimes taken for granted, but it too can be explicitly taught by developing active listening strategies (forming questions, making summaries, clarifying the main focus) and critical skills of analysis. Role play and drama activities are often associated only with language as subject, but they are a useful resource for all subjects; the protection of the role within the drama can free learners to experiment with ideas and different language uses, and can focus on problem solving within the fictional context. All areas of the curriculum offer opportunities for developing different genres of speaking and listening, but the dominant genre of talk is likely to vary from subject to subject (see Chapter 2).

Figure 7.2: Supporting oral work in the classroom: an example

A class studying Orwell's novel *1984* is asked to consider in groups the effectiveness of the opening of the novel, concentrating on the first four paragraphs. Learners are given a prompt sheet directing them to aspects they might consider. The sheet is designed to help them see the successful integration of content and form with such questions as: What information is withheld from the reader? What is the effect of the grammar of the opening sentence? Why does the author use the plural "clocks"? What adjectives are used in the extract and what mood do they evoke? Why does the author use a third-person narrative viewpoint? What is the effect of the repetition as used in this opening?

The teaching of explicit reading skills and strategies is sometimes addressed at primary level but ignored at secondary level. This is a mistake because skills in, for example, basic decoding and word recognition need to be monitored and extended for some pupils even when they are older. All subject teachers need to have awareness of these specific needs and be able to provide the necessary support. Other reading skills and strategies such as scanning a text, inferring meaning from context, identifying key ideas, producing summaries, referring to evidence, and understanding how structure helps comprehension are relevant to different degrees in all subjects. There is a need for both depth (being able to analyse texts and see layers of meaning) and breadth (reading widely) when teaching reading. In-depth reading requires students to develop skills in identifying underlying meanings, justifying inferences with evidence, interpreting, comparing and making evaluations. The range of reading in language as subject has widened considerably from the days when the only texts would be a literary class reader and passages for comprehension exercises. Reading in the language as subject classroom is likely to include literary texts (prose, poetry, drama) and non-fiction texts (including letters, pamphlets, newspaper articles, biographies and reports). Visual images have a key role to play in the way different texts are experienced, and the ways in which they contribute to meaning needs to be addressed explicitly. The study of media texts has become a focus in the language as subject classroom with a view to developing a critical approach, asking such questions as who has written the text and for what purpose? Given that many genres of texts that are read in language as subject are also found in other subjects, there is considerable room for cross-subject collaboration and joint planning of projects (Figure 7.3).

Figure 7.3: An example of teacher collaboration

As part of a geography topic on flooding with 11-year-olds the students are asked in small groups to design a poster to illustrate how people in the area might protect themselves from flooding. After the first drafts are completed, the language as subject teacher is invited into the lesson as a part of a curriculum co-operation project to provide joint feedback with the class teacher, highlighting in particular specific language considerations such as: use of first-, second- and third-person pronouns, imperative case, prepositions, simple and complex sentences, question marks and tenses.

The teaching of writing has also broadened in the language as subject classroom, both in the genres of writing taught and the teaching techniques used to support writing. Different terms are used to categorise writing: epistemic and communicative; expository and literary; transactional, expressive and poetic. No one way of categorising is necessarily "correct". What is important is for teachers and pupils to understand that writing fulfils different purposes (different writing tasks may fulfil different purposes or one writing task may fulfil multiple purposes), and that this has practical implications. Writing has a role in developing thinking, embodied in the notion that "writing-to-learn" is as important as "learning to write". As with exploratory talk, writing can help clarify half-formed thoughts and generate new ideas. Narrative writing requires such skills as the recognition of what is relevant and important as well as the ability to retrieve relevant details. In addition, more expository genres of writing may require the ability to classify, compare and provide illustrations of concepts. It is important that students not be so frightened of making mistakes that they are reluctant to take risks and experiment. It is also important that the teaching cultivates a respect for accuracy in forms of use. The use of a drafting process, more common in language as subject, but perhaps less frequently found in other subjects, is helpful here as a way of resolving this tension between respecting accuracy but not inhibiting creativity in using language (see Chapter 9).

The terms expository or transactional writing are used broadly when the intention is to inform, explain or get things done and is also likely to be found in all subjects. More literary or aesthetic genres of writing such as poems and short stories are more likely to be found in language as subject, but they have potential in all subjects to communicate narratives or express values. Approaches to teaching writing that have developed in language as subject can be used in other subjects, such as the use of writing frames to support and structure writing (see Chapter 9). A key element is the importance of writing for specific audiences. Traditionally the writing in language as subject had no specified readership in mind, apart from the teacher as assessor. In the modern classroom, however, students are encouraged to write for specific purposes with an audience in mind. Again, this approach can be transferred to other subjects.

Language as subject curricula are often designed in terms of the broad outcomes required (increasing levels of complexity in the key dimensions of reading, writing, speaking and listening, and knowledge about language) and opportunities pupils should have (genres of writing, range of reading, etc.). It is less common to find detailed descriptions of the underlying cognitive-linguistic dimensions of the subject (for example hypothesising when formulating ideas about a text; problem solving when creating a media product; making the implicit explicit when analysing the subtext of a drama; making predictions when working out how a novel might unfold). However, this level of detail provides a valuable focus for the kind of dialogue necessary when forming synergies with other subjects.

7.3.   LANGUAGE VARIETIES

One of the key challenges in language in other subjects is to provide focused support for the language elements that are essential to learning the subject without resorting to mechanical operations that lose sight of the importance of meaning. This is helped by employing a form of pedagogy that does not just rely on direct instruction, but uses, in addition, other approaches such as scaffolding, guided activities with texts, modelling and feedback. In this way, the teaching will take a more exploratory (rather than purely prescriptive) approach that will also help influence learners' attitudes to language. This is important because the relationship between language as subject and language in other subjects should not be conceptualised only in terms of being able to do things with language, but should also include a specific understanding of language and how it works. Here, the concept of variety takes on central importance.

The move away from a narrow approach to language as subject includes a broadening of what is meant by "knowledge about language" or "awareness of language". This goes beyond grammar forms to include aspects such as language variation, how language changes over time, differences between spoken and written

language and how language is used in social contexts for different purposes. These are all aspects of language knowledge that were traditionally either ignored or at best left implicit in the language classroom. However, they are important elements of language education that seek to promote understanding of how language operates and how it is used differently in different contexts. It is important for language as subject teachers to introduce learners to wide varieties of language use, not with a view to replacing one form of language with another, but rather to extend their language repertoires as well as their understanding. The development of explicit awareness of, and positive attitudes towards, different languages and cultures, and language uses in different contexts is an important aspect of plurilingual and intercultural education.

The concept of "variety" in the language as subject classroom is therefore important in two key ways. It is an important teaching goal that brings an explicit values dimension to the classroom, helping students recognise and challenge negative attitudes to difference. It also highlights a key aspect of the teacher's role in taking a positive and welcoming attitude to the variety of languages and cultures that are inevitably found in the modern classroom. These varieties of language include the different first languages spoken by learners, as well as second languages that may not be the language of schooling nor taught as foreign languages. For many learners, language as subject may be for them their second language or a foreign language. The concept of variety in language also extends to different dialects and regional variations. In teaching the necessary knowledge and understanding that underpins the values dimension, language as subject has a special, though not unique, role in the curriculum.

7.4. IMPLICATIONS FOR PRACTICE

Although language as subject should not be seen as a "service" subject providing the necessary language teaching that is then used in other subjects, it does have a special role to play in relation to language education that has six key dimensions:

▸ teachers of language as subject have a responsibility for monitoring and teaching the basic elements of speaking and listening, reading and writing. This is likely to be more evident in the early years of primary education, but may extend for some students and children with migrant backgrounds into the later years. Teachers of other subjects need to be able to support that enterprise, but it is important that responsibility for specialist teaching of basic literacy is clearly designated;

▸ language as subject, in addition, still retains a central role in the development of language. This does not mean that certain aspects are taught in language as subject and then just practised in other subjects, for this view does not take sufficient account of the embedded and contextual nature of language and meaning. Nevertheless, it is important to recognise that language as subject focuses on language itself, whereas other subjects focus on understanding and working with content;

▸ language as subject provides tools for analysis of texts that can also be used in other subjects; liaison between teachers is important to create consistency in use of terminology and, for example, in ways of conceptualising "genres";

▸ language as subject has a key role in the teaching of literature, which should be seen as another form of language education and not as a separate subject. There is an argument that suggests that to separate language from literature presents a conception of language that is too narrow and functional. It is literature that encapsulates language in its most subtle and intricate forms, wherein nuances of meaning and ambiguity have to be embraced. Certain objectives are certainly not unique to literature (as they are also relevant to other subjects), but they do fall naturally in a literary context, for example extracting meaning beyond the literal; identifying ambiguity in a text and understanding whether it is desirable or not; understanding how language can be used in imaginative and innovative ways; and comparing texts in terms of structure and style. It is fairly clear that literary aesthetic education has specific requirements. Although there are times when it might be appropriate to read narrative fiction in history (the cases of Dickens or Hugo come to mind) or write poetry in a science lesson, these are less common instances. The ability to interrogate a text, look for hidden meanings, think about who wrote the text and why, should take place in all subjects, not just in language as subject. Texts in other subjects are not read purely for surface information;

▸ the study of language itself is again not unique to language as subject because opportunities may arise, for example, in history (in looking at aspects of language change) or in geography (in looking at the variety of languages in the world). However, language as subject has a special responsibility in developing explicit knowledge about language, and in ensuring that learners have the necessary terminology to be able to speak about language uses in an informed way;

▶ the formulation of a school language policy should be the result of dialogue and negotiation among all teachers, but language as subject teachers will be in a position to share experience of practical approaches in the classroom to help other subject teachers address aspects of language within their own domain or field.

It is reasonable, therefore, to say that language as subject has a special though not unique role in relation to language education. That does not mean that language as subject should necessarily determine the detailed approach to language education in a school, prescribing when and how the language elements are taught in other subjects. This approach implies wrongly that the language elements are an additional element that is merely bolted on to subject learning, rather than emerging from the requirements of the subject itself. Such an approach can disempower subject teachers, reducing them to the role of language "technicians", whereas the aim should be for them to develop awareness and understanding of the central, if not constitutive, role of language in the learning of the subject.

Whether language as subject teachers take a key co-ordinating role in the development of a school language policy will depend on the specific context, but the development of a common approach to language should happen through dialogue aimed at fostering shared understanding rather than through the imposition of structures and methodologies. Perhaps "language policy" is the wrong term if it simply means a general statement of goals and values, important though those are. What is required is a policy/working document that seeks to co-ordinate the approach to language education in a school.

Possible items for inclusion in a school language policy document are:

▶ a statement that provides a commitment to the importance of language in all subjects;

▶ a description of the relationship between language and learning as a basis for understanding the importance of language in all subjects;

▶ an indication of the general attitude towards language that is fostered in the school, including attitudes to diversities of languages and cultures, related to plurilingual and intercultural education;

▶ a statement about the importance of systems and structures, but also of the need for sensitivity to language education in context and the dangers of taking a formulaic or mechanistic approach;

▶ a glossary of key language terminology students will need to acquire to facilitate their ability to talk about language;

▶ an agreed approach to marking and feedback in all subjects, including the approach taken to mistakes in spelling, grammar, etc.;

▶ a description of cognitive-linguistic functions that embody both cognitive operations and associated verbal performance (for example describe, classify, deduce, interpret – see Chapter 2), both within and across subjects;

▶ examples of practical teaching strategies that can be used in all subjects to help support language learning, especially for more vulnerable students (for example techniques for reading texts, ideas for scaffolding writing, ways of facilitating oral work);

▶ an inventory of key language uses in the form of cognitive-linguistic functions and genres in order to ensure breadth in subject teachers' approach to language that can be adapted in the context of specific subjects.

Chapter 8
Subject-specific language requirements in secondary education

When compulsory (lower) secondary education was first introduced (in many countries in the middle or second half of the 19th century), politicians **and educationalists** required schools to teach a rigid content-based academic curriculum divided into distinct subjects. The professional self-perception of teachers was strongly influenced by their role in instructing students in their subject or discipline. Their aim as subject experts was to pass on academic content using the specific technical language of the discipline. Teaching and learning in secondary schools is still primarily organised according to different subjects, as a superficial look at timetables that students bring home from school shows.

Over time, the gap between the disciplinary content being taught in secondary schools and the knowledge, skills and competences that are required for individuals to actively participate in society has continually widened. One of the ways modern pedagogy has sought to close this gap is by combining traditional school subjects, for example "history" plus "geography" into new fields such as social studies or European studies. This helps to broaden the knowledge area and focus on abilities, skills and competences rather than on factual knowledge and rote learning. Interdisciplinary project work of this kind is often found in the form of special courses, project days or project weeks, but such initiatives are still fairly rare. The fact that teaching and learning in secondary schools is still dominantly subject-based and highly specialised (in contrast to primary education) has implications for the language dimension: teachers of a particular school subject can be considered a discourse community, namely a community that shares a common practice of classroom language use and that guides students in acquiring literacy competences in a specific discipline.

The purpose of this chapter is to examine the language requirements specific to subjects (taking mathematics, science and history as examples). It will demonstrate the complexity of these requirements and how they depend in part on how the subject's aims are conceived. The chapter will also address, through examples, the importance of scaffolding language in the classroom, and will offer considerations for further research.

8.1.   SUBJECT-SPECIFIC SENSITIVITY AND LANGUAGE EDUCATION

As argued in earlier chapters, subject teachers need to become aware of the language dimension of teaching and learning content in their subject and acquire teaching strategies and techniques that link language to curriculum content and academic standards. They are also required to reflect on how far and by what means their subject can contribute to subject literacy as well as to academic literacy in general. In this concerted effort, each subject has a specific profile of language use, and thus can make a specific contribution to language education.

8.2. MATHEMATICS AND ITS CHARACTERISTIC CONTRIBUTION TO LANGUAGE EDUCATION

The language requirements of the mathematics classroom have three main elements: (a) the language conventions that are specific to mathematical genres, including different representational modes and highly specialised symbolic notation for mathematical formulas; (b) the meaning-making activities of the mathematics classroom and the challenge to describe and interpret problems of daily life in order to solve them by mathematical means; and (c) everyday language as used in informal in-school and out-of-school contexts.

The language of mathematics is considered by many to be a language in its own right, with a specific notational system and symbols taken from many alphabets and typefaces, for example:

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos \frac{n\pi x}{L} + b_n \sin \frac{n\pi x}{L} \right)$$

It has its own vocabulary consisting of technical terms (for example "fraction bar", "group", "term", "fractal") and stock phrases (for example "if and only if", "q.e.d."). Its grammatical peculiarities and mathematical formulas serve as a part of speech or as a complete statement in which signs like "=" or ">" function as verbs, with particular types of statements and mathematical genres (for example axiom, conjecture, corollary, proof). In a long historical journey, mathematics to a larger degree has dispensed with "natural" language. It has largely succeeded in becoming a pure metalanguage in that it is independent of any impact from the sender, receiver and context. Furthermore, the discourse community of professional mathematicians has a lingua franca (a common language) at their disposal. Through the use of different forms of representation (diagrams, numbers, formulas, etc.), notational systems and shared conventions, mathematicians are able to communicate across language borders – although when it comes to exchanging views and arguments or communicating mathematical truths or procedures to the general public, they readily fall back on natural languages.

Traditionally, teachers are well aware of the learning difficulties originating from the language dimension of mathematical content. Thus, as a rule, schoolbooks and teaching methodology take the language dimension into account at least as far as terminology and mathematical genres are concerned. Nevertheless, for many students it is the "language" of the mathematical classroom that makes the successful use of methods and tools so complex and challenging. On the one hand, the purification of the discipline's language, in becoming context-free, is the very reason for its success. On the other hand, it is one of the main obstacles to the teaching and learning of mathematics.

In recent years, the pedagogy of mathematics has changed from a formal approach based on instruction and drills to a problem-solving approach focusing on mathematical literacy and competences. The notion of mathematical literacy – as defined by the OECD in 2003 in "Learning for Tomorrow's World" – can be taken as a point of departure for specifying the language element of teaching and learning mathematics. Accordingly, mathematical literacy can be seen as:

> an individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgements and to use and engage with mathematics in ways that meet the needs of that individual's life as a constructive, concerned and reflective citizen.[60]

It helps to break down the complex objective of mathematical literacy into partial competencies in order to understand what kind of language and how much of it is required for successful participation in the mathematics classroom. In recent decades there have been various attempts to describe educational standards for mathematics. Most of them have taken a two-dimensional approach, combining the content dimension with the process dimension. The mathematical competency model of the Swiss National Educational Standards, for example, uses these categories, as shown in Table 8.1.

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60. Linneweber-Lammerskitten H. (2012), *Items for a description of linguistic competence in the language of schooling necessary for learning/teaching mathematics: An approach with reference points*, Council of Europe, Strasbourg, p. 9f. www.coe.int/lang-platform ("Language(s) in other subjects").

Table 8.1: Curricular competence dimensions for teaching mathematics[61]

Content dimension
number and variable
shape and space
functions and relations
size and measurement
data analysis and probability
…

Process dimension
knowing, recognising and describing
operating and calculating
using instruments and tools
mathematising and modelling
arguing and justifying
interpreting and reflecting on results
experimenting and exploring
presenting and communicating
…

Combining these two dimensions into a grid with content dimensions along one axis and process dimensions down the other, one obtains 40 cells, each containing a description of one or more competences. A superficial look at some of these cells substantiates the complexity of language requirements that go far beyond the technical core of mathematical content language: students are not only required to understand, use and explain a multitude of technical mathematical terms, often alleged to be the main obstacle to successful learning, but they are also confronted with many other verbal challenges:

▸ describing, interpreting and modulating problems of daily life in order to solve them by mathematical means;

▸ making transparent and justifying the reasoning and methods of calculating;

▸ providing illustrative explanations for mathematical phenomena and laws;

▸ presenting one's own calculations, transformations, constructions, argumentations in a way that is comprehensible and traceable by others and appropriate with respect to the mathematical object;

▸ forming assertions and providing reasons for them;

▸ understanding and reproducing proofs and counterexamples.

It is clear then that linguistic and communicative competences are constitutive parts of educational standards in mathematics. They are necessary preconditions for and also outcomes of successfully acquiring mathematical competences.

When seeking to determine the educational standards or threshold levels for language awareness and skills in relation to subjects that learners should have acquired at certain developmental stages, educators and administrators are faced with several options (see Chapter 10). They may develop a curricular frame of reference for each school subject that specifies expected language proficiencies, genres to be mastered and cognitive-linguistic functions that are frequently used in teaching and learning. As an alternative, a common curricular frame of reference for the language dimension of teaching and learning can be established for all subjects across the curriculum. The latter strategy has been applied by the Swiss National Standards of Education.[62] They propose *Schulsprache* (language for education) as a cross-curricular domain and identify necessary language skills and competences for the various stages (at the end of years 4, 8 and 11).

The teaching of mathematics must also be concerned with elementary linguistic knowledge and language skills. In most educational systems, a considerable proportion of learners have not yet fully acquired general competences in the dominant language of schooling (see Figure 8.1). Prediger[63] quotes empirical evidence (see below) for the German educational context, suggesting that general language proficiency (C-test results) is the factor with the strongest connection to achievement in mathematics.

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61. *Source*: *Grundkompetenzen für die Mathematik:* http://edudoc.ch/record/96784/files/grundkomp_math_d.pdf.

62. Available at: http://edudoc.ch/record/96791/files/grundkomp_schulsprache_d.pdf.

63. Prediger S. (2013a), "Darstellungen, Register und mentale Konstruktion von Bedeutungen und Beziehungen – Mathematikspezifische sprachliche Herausforderungen identifizieren und überwinden", in Becker-Mrotzek M, Schramm K., Thürmann E. and Vollmer H. J. (eds), *Sprache im Fach – Sprachlichkeit und fachliches Lernen*, Münster et al., Waxmann, p. 167-183.

Figure 8.1: Factors affecting achievement in mathematics

Family background factors

Socioeconomic status 1.4%

Immigrant status 3.2%

Age of first contact to German 3.3%

Central exam in NRW (n=1495)

Mathematics achievement

Language factors

Reading proficiency 10.6%

Proficiency in language of schooling 13.6%
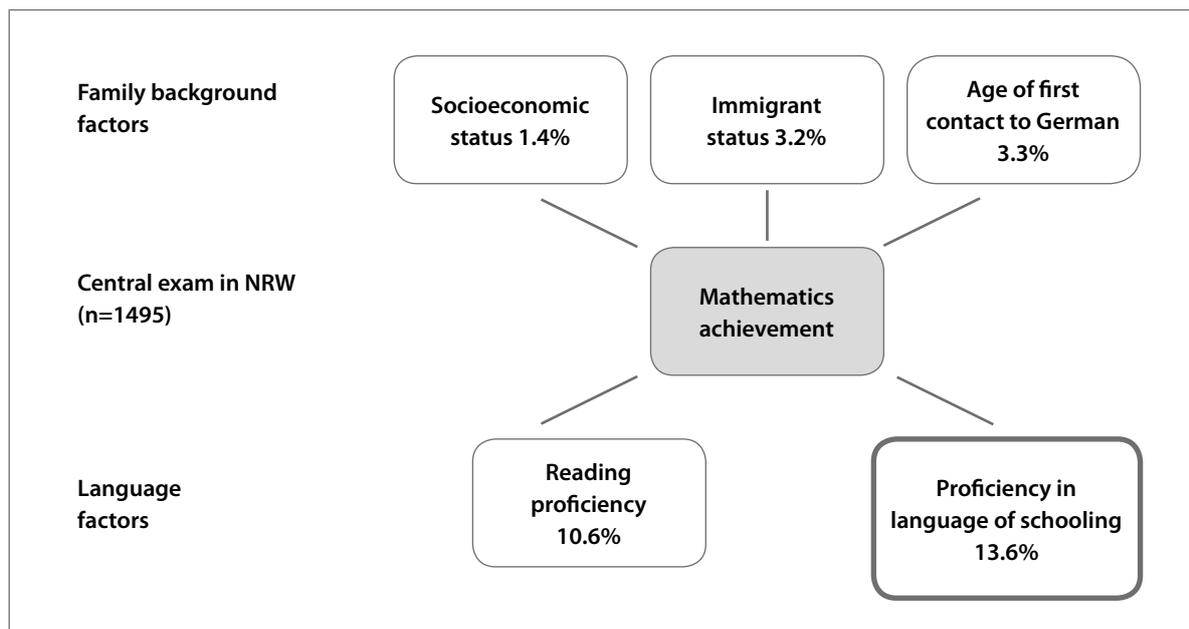
With reference to a task set in an external examination at the end of compulsory schooling (Figure 8.2), Prediger also shows that shortcomings in the age-appropriate availability of elementary language means make it difficult for many students to solve mathematical problems.

Figure 8.2: Specifying the necessary language of schooling: the case of reading in mathematics[64]

The fuel consumption for vehicles is specified by the consumption in litres for a distance of 100 km. The fuel consumption of a car depends on the speed.

The diagram shows the fuel consumption for a car that drives in the highest gear. That is why the graph starts at 70 km/h.

What speed does the car have on average, when it consumes 11 litres for 100 km?

How much higher (in per cent) is the consumption for 180 km/h than the consumption for 100 km/h?

When attempting this task the students may find it difficult to:

▸ understand the task (for example multiple nested prepositional phrases);

▸ indicate exactly when or for how long a process lasts (using appropriate prepositions such as "from", "between", "within", "since" and "during");

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64. www.coe.int/lang (Events/Intergovernmental Conference entitled "Quality and inclusion in education: the unique role of language" (2013)/*Specifying the necessary language of schooling:* the case of reading in mathematics).

- give precise details of location;
- specify causes and effects, and logical relations (lack of means to express causal, instrumental, conditional, concessive, final relations);
- make statements about ways and means, and about degree and extent;
- make comparisons and establish exactly how prevalent certain features are.

Thus, content teaching in the mathematics classroom that is language sensitive needs to scaffold learning activities on all three levels: on the technical language of mathematics, on the general academic level of language use as well as on the substrate level of basic colloquial use.

8.3. SCIENCES AND THEIR CHARACTERISTIC CONTRIBUTION TO LANGUAGE EDUCATION

In order to address the Council of Europe's values for citizenship, the teaching and learning of sciences should not limit itself to the reconstruction and transfer of ready-made scientific (factual) knowledge, but should also consider the power and the limitations of science in addressing important issues in society, including ethical decisions. Obviously, such an approach requires a complex concept of scientific literacy. Based on the Council of Europe's value system, a very comprehensive concept of science education has been developed, providing one approach to describing and categorising the language competences needed for successful learning and teaching in science education.[65] Open-ended inventories and checklists are offered that are to be completed by users, according to the specific context of the educational system and the languages in which teaching is conducted. According to this view, scientific literacy aims to empower learners to engage with socio-scientific issues in a competent manner on a reliable and broad basis of disciplinary knowledge. This implies (i) reading and listening with understanding to scientific information and arguments, (ii) examining and evaluating this information critically and (iii) contributing to discussions and decision making in the private and public sphere. In this approach, scientific literacy is conceptualised through distinct areas of competence: (a) strategic competences (planning, execution, evaluation and remediation for verbal production, reception and interaction); (b) discursive competences (genres relating to science issues for in- and out-of-school use); and (c) formal competences (cognitive-linguistic functions determining the linguistic surface features of spoken and written texts). In each of these areas, descriptors can be specified for the sake of subject-specific curriculum development and implementation.

Although school subjects share common patterns of language use across the curriculum, language in science classrooms is a very specific "dialect" of the general academic variety of the dominant language of schooling. This is due to its basic cycle of knowledge building:[66]

- observe aspects of the physical or natural universe;
- ask questions about the nature of the observation;
- generate a hypothesis to explain the observation and make predictions;
- design further observations or experiments to test the hypothesis;
- perform the experiment and gather data;
- discuss conclusions based on the validity of the experimental data;
- make generalisations and relate outcomes to the "big ideas" and general concepts of science.

The texts students are confronted with in the science classroom differ significantly from texts in other school subjects, as the following example (Figure 8.3) indicates:

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65. Vollmer H. (2010), "Items for a description of linguistic competence in the language of schooling necessary for teaching and learning science: an approach with reference points", available at: www.coe.int/lang-platform ("Language(s) in subjects").
66. From: www.jeffzwiers.org.

Figure 8.3: Archimedes' principle[67]

The more a body is immersed in water, the more the weight of the body decreases. The weight of the body is least when it is completely immersed in water. This means that loss in weight of the body increases as it is completely immersed in water.

When a body is partly or completely immersed in water (or any other liquid), then: Loss in weight of body = Weight of water (liquid) displaced by the body = Buoyant force or upthrust exerted by water (any liquid) on the body.

The texts students read in science have few stories or narratives (as in history or language as a subject), but instead display the following characteristics:

▶ they are factual, hierarchically organised (topic > subtopic > details and facts) and dense (low redundancy);

▶ they frequently use a variety of modes of representation (texts, photos, video, diagrams, graphs, charts, maths and chemistry symbols, etc.) and students are asked to "translate" information from one mode to another;

▶ emphasis is on explicit descriptions (comparing, contrasting) and procedural language as used in lab directions and reports;

▶ statements are based on facts rather than on opinions or emotions, with an impersonal style (first-person perspective is often avoided, with frequent use of passive constructions without the identification of actors and agents and frequent use of impersonal pronouns).

On the lexical level, there is a heavy load of technical terms and nominalisations. Some of these words may be new to students (for example "molecules", "buoyant") and they are "owned" by the specific scientific discourse community. Others may be known to students, but carry a different or more precise disciplinary meaning (for example "force", "object", "solid"). Finally, there are many words of general academic usage (for example "submersed", "displaced", "fluid", "impact").

On the morpho-syntactic level, verbs are mainly used in the present tense when phenomena are described and explained. Frequently, students have to tackle complex syntactical constructions: for example expanded noun phrases, extended attributal clauses, subordinate clauses and "grammar words" specifying local, temporal, modal and logical relations within the boundaries of a sentence.

These stylistic conventions have been criticised by some commentators because they make science lessons less accessible and less engaging to students – and there is a tendency for teachers to leave much of the semantics and grammar of scientific language completely implicit. So for the sake of all students in mainstream education, and not only for those at risk of marginalisation, the primary aim of language scaffolding should be to make learners aware of the specific nature of language use in the science classroom and how it differs from everyday conversational language. Students' language awareness and their ability to take notice of those patterns of language use that are specific to the science classroom are the basis for their learning to talk, read and write science.

Awareness raising is primarily achieved through classroom discourse. The culture of meaning-making speech in the biology, physics or chemistry classrooms is conducive to successful content learning, but this kind of social/intellectual activity is rare in many schools. Discourse in many science classrooms is restricted to very teacher-controlled, low-level exchanges with students. A classroom discourse culture that will in the long run lead up to scientific literacy can be characterised by the pedagogical features listed in Figure 8.4.

Figure 8.4: Features of classroom discourse[68]

The classroom environment is safe for students to express their ideas.

Goals of classroom discussions are anticipated by the teacher and made explicit to the students.

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67. *Source*: From "Verification of Archimedes' Principle": http://amrita.olabs.co.in/?sub=1&brch=1&sim=72&cnt=1.

68. *A Discourse Primer for Science Teachers,* http://ambitiousscienceteaching.org/wp-content/uploads/2014/09/Discourse-Primer.pdf.

Students' uncertainty and ideas are treated as resources for the learning of the whole class.

Focal questions and tasks are predominantly of high cognitive demand for making sense of science ideas and phenomena.

Strategies for allowing time to think in whole-class discussions are used (wait time, think – pair – share).

A variety of discourse moves are used to manage the initiation and development of ideas, while at the same time respecting the thinking of all members of the class.

Students' language and forms of communication are scaffolded from what they bring to class towards more academic ways of speaking.

Metacognitive questions are part of all lessons so that students learn to assess their own thinking and language use.

Traditionally, science teachers are well aware of the difficulties arising from "hard words" (the terminology of the discipline) or the "bricks", as the metaphor goes. A lot of teaching time is spent on the precise meaning of these terms and the definition of scientific concepts. However, the major difficulty for many students originates in embedding the "hard words" into a coherent statement that clearly communicates the functional, temporal, spatial and logical relation of the "bricks". This is achieved by language elements that serve as "mortar". Thus, lexical scaffolding should also focus on adverbs of time and place; on logical connectors (prepositions, conjunctions); on adjectives and adverbs relating to size, colour, weight, etc.; on procedural verbs; and on phrases indicating the reliability of the proposition which it introduces.

Reading and writing in the science classroom definitely needs systematic scaffolding on the basis of general principles. Genres and basic cognitive-linguistic functions are the leading categories for students to discover science-specific language patterns as well as textual structures and conventions; the analysis of model texts will allow them to apply the findings in their own writing. Work on genres is complemented by demonstrating the social context of such genres and their purpose and function for communication and cognition.

8.4. SOCIAL SCIENCES AND THEIR CHARACTERISTIC LANGUAGE REQUIREMENTS

Today, the average citizen using public media to learn about complex political, economic and socio-cultural issues has a broad range of opportunities to draw information from news and background reports, editorials and interviews. However, high levels of academic literacy are needed to understand what exactly is being covered, from which perspective and – possibly – with what biases. The challenge can be illustrated using the following newspaper article as an example (Figure 8.5).

Figure 8.5: The challenge of language in newspapers[69]

Ed Miliband put tackling London's soaring rents at the heart of his local elections campaign today – but was immediately accused of risking an exodus of private landlords.

Labour's leader unveiled a signed "Cost of Living Contract" to give voters, containing previous promises to freeze energy bills plus a scheme to strengthen tenants' rights and cap rent rises. But housing industry experts said there was a risk landlords would withdraw properties from the rental market if they were tied to less flexible terms.

David Butler, co-founder of Rentonomy.com, said it could drive up rents: "The big risk is that the supply of rented accommodation will dry up if landlords feel they won't have enough control over who is living in their property." Past attempts to control rates saw the rental sector shrink between 1945 and 1991 to 7 per cent of the market.

To fully understand these lines, readers need to associate meaning with terms frequently used in a broad spectrum of social sciences. The reader needs to be acquainted with the United Kingdom's political party system and the history of ideological positions of the Labour Party in contrast to those of the conservative Tories.

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69. *Evening Standard*, May 1, 2014: Ed Miliband proposes cap on rent rises in London but "risks private landlord exodus".

Readers should also be familiar with the terminology and concepts of economics (for example "rental market", "cost of living contract", "housing industry"). Last, but not least, they must activate background knowledge that they might have acquired in geography lessons back in school, when they probed into the challenges of urban development. But beyond activating background knowledge, readers have to cope with linguistic challenges, for example the metaphorical use of language ("soaring", "at the heart of", "freeze energy bills", etc.), technical terms ("supply of rented accommodation") and complex syntax.

This example shows that social sciences play a key role in educating for democratic citizenship by providing young people with relevant content knowledge and affiliated language competences. Educational systems around Europe differ in organisational set-up as well as curricular strategies of teaching social sciences as school subjects. Due to space restrictions, not all of the social sciences can be analysed here for characteristic academic language requirements. For this reason, history as a school subject will serve as an example.

Language in the history classroom is well researched and the subject can be taken as a prominent member of the "family" of social science subjects. On the Council of Europe website "A platform of resources and references for plurilingual and intercultural education", a procedure for creating a curriculum for the teaching of history is presented that explicitly takes into account the genres and cognitive-linguistic functions of this school subject.[70] It runs through a series of stages, starting with a description of the educational values targeted by history teaching practices. These values are derived from Council of Europe initiatives based on the idea of educating for democratic citizenship and building tomorrow's Europe. Besides these exterior civic and social goals, the intrinsic disciplinary goals of history teaching are acknowledged, for example the "intellectual ability to analyse and interpret information critically and responsibly, through dialogue, through the findings of historical evidence and through open debate based on multi-perspectivity, especially regarding controversial and sensitive issues". Procedures to set up inventories of descriptors of the linguistic, discursive and semiotic requirements involved in history teaching practices are described. Such inventories can be structured according to three main areas of historical competences: (a) communication involving historical issues in the learner's environment; (b) historical knowledge expected by the educational system (national, regional, local subject-based curricula); and (c) existing classroom and other in-school communication situations for the transmission of history.

Disciplinary language use can be taught and acquired in a targeted way through aligning the linguistic, discursive and semiotic elements to subject-related knowledge. This systematic scaffolding of historical literacy contributes to a deeper understanding of what history is about and enables students to meet the specific cognitive and communicative demands of the classroom. Ordinarily, in the history classroom, students are required to understand textbook language – often very elaborate and abstract. Such language often assumes that students can make inferences about events and ideas without much explanatory support. Students are asked to reflect on how historians construe meaning and arrive at the concepts employed in the study of history. Also, the discussion of cause-effect relationships of historical events and developments are crucial to acquiring historical literacy. These activities will eventually qualify students to take up a stance on controversial issues and on ambiguous evidence. However, building historical literacy depends on reliable groundwork and skills. These include critically examining the language of documents and identifying the author(s)'s perspective and vested interest. Students are also required to engage with artefacts and to hypothesise about the past. This implies working with a broad spectrum of presentational modes (texts, maps, diagrams, statistics, etc.) and "translating" content from one presentational mode to another.

Most of these activities are carried out either through interactive oral work in class (in plenary or small groups) aiming at the joint construction of historical meaning, or through writing using the genres frequently found in the teaching of history: for example recount (public records of people and the agents and agencies of their lives and times); account (causal connections of episodes and abstract participants); explanation (complex factors and consequences of episodes, simple or complex cause-effect relations); exposition (positions that need justifying with evidence); rebuttal (challenge of an alternative interpretation that is not believed to be supported by facts); and discussion and adjudication (more than one interpretation that needs adjudicating).

From a practitioner's point of view, the teaching of history and other social sciences has to take into account the fact that challenges for low-literacy students increase as they progress through secondary education: the amount of reading in social studies classes surpasses that of most maths or science classes, and the reading

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70. Beacco J.-C, (2010), *Items for a description of linguistic competence in the language of schooling necessary for teaching/learning history: An approach with reference points,* Council of Europe, Strasbourg: www.coe.int/lang-platform ("Language(s) in other subjects").

passages are long and filled with abstract concepts and unfamiliar schema.[71] Students in school are expected to read and write in a language that becomes increasingly distanced from the informal language of everyday life. Thus, teaching should focus on the above-mentioned interactive oral and conceptually written genres and pertinent text organisation strategies. On the more basic level of language processes, besides precisely defined vocabulary to express concepts and complex ideas, scaffolding priority should be given to elements, clauses and prefabricated "chunks" of text that support coherent reasoning and argumentation, for example connector words that join clauses, phrases and words in logical relationships of time, cause and effect, comparison and addition and cohesive devices that link information and help the text flow and hold together.

8.5.   THE ROLE OF SCAFFOLDING IN LANGUAGE-SENSITIVE CONTENT TEACHING

The term "scaffolding" has been used earlier in this handbook and several times in the course of this chapter, as it is highly relevant for the support of learners and their attempts to acquire academic language competences in all subject areas. It refers to a variety of instructional techniques used to move students progressively towards stronger understanding and, ultimately, greater linguistic and textual independence in the learning process. "Scaffolding" means that teachers provide successive levels of temporary language support that help students reach higher levels of comprehension and skill acquisition than they would achieve without assistance from teachers or more knowledgeable peers. Supportive strategies are incrementally removed when they are no longer needed, and the teacher gradually shifts more responsibility over the learning process to the student. Although Lev Vygotsky (1896-1934) never used the term in his writing, his learning theory can be considered the basis for the concept as it is discussed and applied today.

The main tenets of Vygotsky's learning theory can be summarised as follows:
 ▸ learning precedes development;
 ▸ language is the main vehicle (tool) of thought;
 ▸ mediation is central to learning;
 ▸ social interaction is the basis of learning and development. Learning is a process of apprenticeship and internalisation in which skills and knowledge are transformed from the social into the cognitive plane;
 ▸ the Zone of Proximal Development (ZPD) is the primary activity space in which learning occurs.[72]

Techniques to scaffold language uses in the classroom might include:
 ▸ explaining a new concept through a concept map;
 ▸ making deliberate comparisons with a first/another language and culture;
 ▸ focusing on particular words to develop a metalanguage;
 ▸ providing and explicating fruitful examples; asking students to notice particular aspects/features of language use;
 ▸ highlighting language patterns for specific cognitive-linguistic functions (for example define, describe, explain, evaluate, argue);
 ▸ providing textual models (genres) for oral or written content-based communication;
 ▸ using questions to probe students' conceptions and prompt them to describe their interpretations and challenge their opinions;
 ▸ using various ways of representing ideas and concepts (for example visuals, diagrams, organisers, highlighting, and various media and technologies);
 ▸ providing feedback that relates to improving subject literacy.[73]

Subject-specific language requirements call for scaffolding techniques on a macro level, also called "systemic" scaffolding or "hard" scaffolding. As opposed to scaffolding on a micro level ("soft" or "point-of-need" scaffolding), these techniques are directly associated with the specific curricular goals of a discipline. Thus, language-sensitive teachers are able to predict students' need for support. In contrast, point-of-need techniques of

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71. For examples, see Schleppegrell M. J. (2004), *The Language of Schooling. A Functional Linguistics Perspective*, Routledge, New York; Short D. (1994), "Expanding Middle School Horizons: Integrating Language, Culture, and Social Studies", *TESOL Quarterly*, 28, 3, 581-608.
72. Walqui A. (2006), "Scaffolding Instruction for English Language Learners: A Conceptual Framework", *The International Journal of Bilingual Education and Bilingualism,* 9, 2, 159-180, available at: http://eric.ed.gov/?id=EJ742496.
73. Based on "Scaffolding learning – Key ideas" in Teaching and Learning Languages: A Guide: www.tllg.unisa.edu.au/lib_guide/gllt_ch3_sec6.pdf.

scaffolding require spontaneous supportive action whenever language students are confronted with language obstacles that cannot be anticipated by the teacher when (s)he plans the lesson.

For instance, when the curricular goal in a social science classroom is to write an information report on the history of production methods, for example in the automobile industry, the class teacher will need to judge whether learners are aware of the characteristic features of an information report or whether they need systematic (meta-)language and cognitive scaffolding. A genre-based approach to scaffolding could run through the stages shown in Figure 8.6.

Figure 8.6: Genre-based curriculum cycle[74]
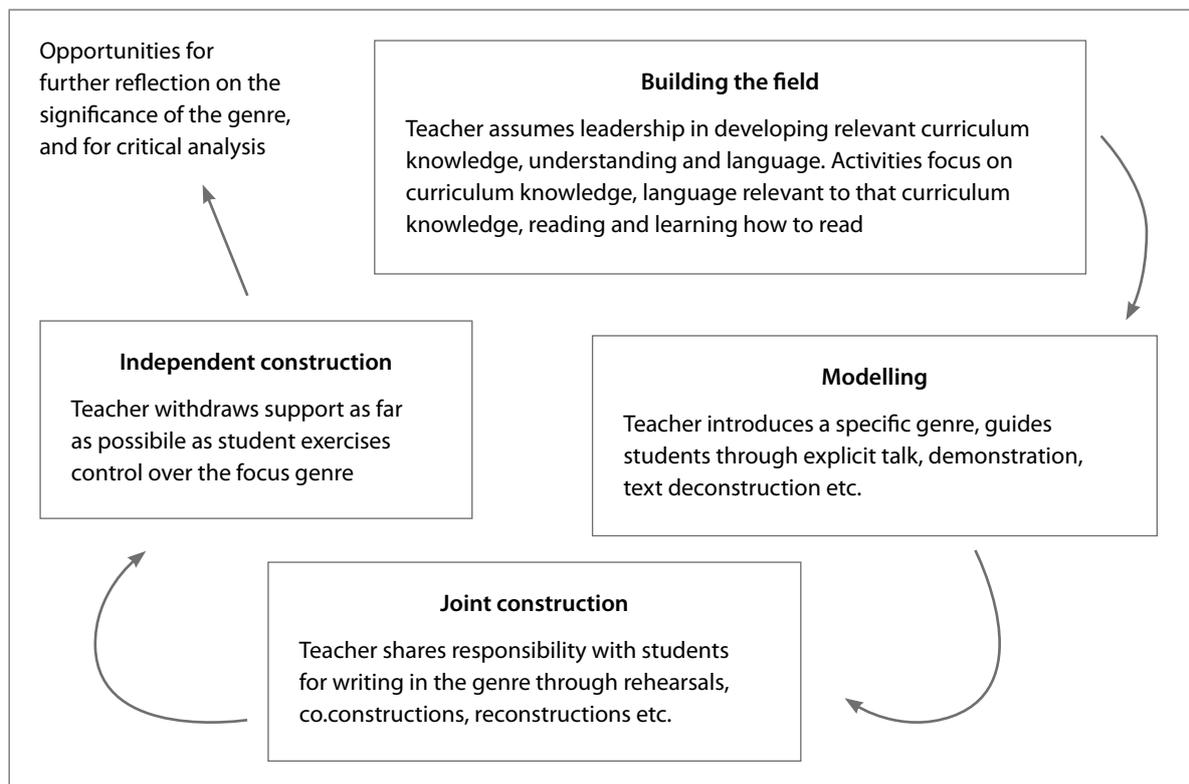
A cycle like the one captured in Figure 8.6 may lead to deeper understanding of the nature of information reports that learners can then transfer from one subject to another, and also from one language to another – provided teachers follow a whole-school language-learning policy and adopt a joint approach to genres and cognitive-linguistic functions. Scaffolding support for genres (for example an information report) could observe the elements and features in Table 8.2.

~~Figure~~ 8.2: Characteristic genre features: information report

Function	Information reports are used to pass on knowledge and understanding to readers/listeners who are not familiar with the specifics of a topic.
General features	Information reports: ▸ use facts to explain something; ▸ describe and classify information; ▸ draw attention to different aspects of the general topic; ▸ give details concerning these aspects; ▸ are not based on personal involvement, and have no personal/ subjective views.

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74. *Source*: Hammond J. (ed.) (2011), *Scaffolding: Teaching and Learning in Language and Literacy Education*, NSW: Primary English Teachers' Association.

Generic structure	Title/heading	Tells readers/listeners what topic is covered.
	Introductory paragraph	(a) Announces and very briefly highlights aspects of the topic to be covered, (b) identifies source(s) of information, (c) explains features of information source(s), (d) characterises methods, (e) indicates possible limitations.
	Body paragraphs	Deal with specific aspects of the topic. Each paragraph is grouped around a central idea/aspect. Each paragraph has a topic sentence. To keep them coherent, they can be broken up by sub-headings. Paragraphs are arranged in a logical order.
	Conclusion	Provides final details, and may also be used to (a) review most important findings and (b) draw well-founded conclusions based on the evidence given in the body paragraphs.
	Support (optional)	Materials to enhance understanding (a) visual elements (photographs, drawings, graphs, diagrams, maps), (b) a list of technical terms and their definitions and (c) a list of resources.
General language features	▶ descriptive, rather than imaginative; ▶ verbs: third person rather than first person; ▶ basic tense: simple present; ▶ frequent use of passive voice; ▶ absence of informal register (e.g. "method was a bit silly and time-consuming", "really quite good", "and that's about it"); ▶ things/phenomena rather than persons as subject of sentences, nominal style; ▶ paraphrases technical terms.	

Additionally, examples of appropriate language can be presented as options from which learners can choose:[75]

> the report is based upon … / the major findings can be summarised as follows … / in the light of the evidence drawn from … / the purpose of this report is … / what makes this aspect so important …/ as one considers the presence of … / finally one can say that … / this report considers … / the source under analysis was published by … / the most significant aspect appears to be …

8.6. CHALLENGES

Inclusive quality education for democratic citizenship in modern knowledge societies (as advocated by Recommendation CM/Rec(2014)5, see Chapter 1) requires that educational authorities address the language dimension in curriculum development and implementation across the whole curriculum. It also requires the continuous professional development of teachers. Also, at school level attempts to establish a language-sensitive classroom culture ought to be supported by adequate resources and professional expertise. These aspects are dealt with in greater detail in Chapters 10 and 11. However, besides these clearly defined goals, there are certain issues demanding critical attention and further research:

▶ there is general agreement that teaching and learning are largely undertaken through oral interaction in the classroom, often in a fairly informal way. There is a tendency for both teachers and learners, especially in secondary education, to avoid writing activities that are cognitively demanding. However, the sustainable acquisition of subject literacy is strongly dependent on opportunities for learning through writing. More empirical research is needed on how to effectively motivate teachers and learners to engage in writing activities for epistemic purposes;

▶ in many subject areas and associated professional communities, there is insufficient awareness of the characteristic features and patterns of the required formal language use related to forms of discourse and genres. The development of subject-specific language profiles would greatly facilitate language-sensitive teaching;

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75. Based on www.coe.int/lang-platform ("The learner and the languages present in school/Languages of schooling: focusing on vulnerable learners").

▶ in many educational systems, the language dimension of formal assessment has not yet attracted adequate attention. Subject literacy and the ability to understand, talk and write about general topics on a sound basis of disciplinary knowledge are part and parcel of modern educational standards and the large international comparative projects of student assessment. On the other hand, on a lower level of classroom practice, closed-formatted and half-open forms of assessment (for example multiple-choice, matching and fill-in exercises) still abound. One reason might be that statutes for assessment in "non-language subjects" are often rather vague about the language component of subject-specific performance or explicitly bar language aspects from being accounted for. With regard to the language dimension, there is a need for discussions leading to a closer alignment of teaching and assessment standards and practices for "non-language subjects".

Chapter 9
Teaching approaches

A key challenge in addressing the language dimension in all subjects is to determine how practice in the classroom should be adapted in order to ensure that learners receive the teaching and support they need. This is a deceptively simple question requiring a nuanced answer that is sensitive to the tensions and complexities associated with language education. What might be termed a "separatist" view of language makes the assumption that the linguistic elements can be isolated, generalised and taught in such a way that they can easily be transposed to other contexts. According to that view, a genre like "report writing" can be taught in a systematic way through rules, conventions and practice operations. On the other hand, an "embodied" view of language is more focused on the unique and dynamic nature of particular uses of language, recognising the importance of context. In this approach, each "report" (the term itself might not necessarily be used) is unique with its complex, overlapping dimensions that need to be examined in context. Expressed in this way, neither approach is, by itself, adequate but the polar positions are helpful to illustrate the practical challenges.

The separatist view risks leading to a mechanical form of teaching that is closed and formulaic, one that does not lead learners into a rich appreciation of different language uses. In this approach, the literacy elements in the subject classroom are seen as bolted-on "extras" that are not sufficiently related to the specific requirements of the subject. On the other hand, the embodied view, when taken to an extreme, is of limited practical utility because it does not provide sufficient generalised frameworks to support teaching.

A so-called "non-language" subject teacher does not become "language sensitive" only through the mechanical adoption of specific teaching methodologies or approaches in the classroom, important though these are. For example, the simple act of correcting the informal oral language used by pupils may be successful in one classroom but not in another. The approach is more likely to be successful if the intentions and expectations are clarified by the teacher. In one classroom, because there is a general culture of trust and understanding of the importance of language, the pupils may appreciate the intention of the teacher to develop their academic language; in another classroom, the same action may produce a negative response if the pupils interpret the correction as an affront to their identity and feel even more alienated from the school and classroom. The specific context, and what can be called the "culture of the classroom", will determine the success or otherwise of particular teaching approaches. The culture of the classroom is likely to be influenced by the culture of the school. This is also to acknowledge the importance of the affective dimension of learning in the classroom, where emotion, and not just cognition, is significant. Often the actions taken in the classroom by the language-sensitive subject teacher may be quite subtle and undemonstrative, for example, knowing enough to wait for or invite more extended oral responses from pupils; knowing when and when not to draw attention to aspects of language use in the course of classroom talk; and providing combined content and language-specific feedback on written work. In the following example of a geography lesson with 16-year-old students based on a text, the language focus is ensured through carefully stepped tasks (Figure 9.1).

Figure 9.1: A staged approach to understanding a text in the classroom: an example

Goal: deep understanding of a text on industrialisation of meat production in the US.

The teacher sets a sequence of written tasks for the students:

▸ Underline the key words in each paragraph, then summarise each paragraph in one sentence.

▸ List all of these sentences. Check each one of them and link them in an appropriate (cohesive+coherent) way – it may be necessary to insert new words or rewrite and edit the whole.

▸ After individual presentations, the class form groups and each group either chooses the best collection of sentences, or creates a new text collectively based on the different presentations. Then, they improve and finalise the text as a group product.

▸ A discussion follows on the purpose, audience, focus and possible alternatives, giving reasons and, if necessary, voting on the final decision. (By voting they learn how to form an opinion in relation to the content and language.) In doing this activity, the students have to argue about the content, using language for precision of information, focus, and message. They base their reasons on the content AND the language.

It is helpful, therefore, for subject teachers to have an awareness of different aspects of language use at word, sentence and text level so that they can draw on this knowledge in appropriate ways in context in the classroom. Being able to support students, for example, in their choice of vocabulary, tense and voice in their writing is not just providing surface, technical "secretarial support", but will help facilitate their clarity of thinking. Different genres of oral and written texts such as presentations, reports and journal articles tend to have some common characteristics that can be recognised for teaching purposes without restricting creativity. Structures and frameworks are needed that can be used in such a way that they enable and do not inhibit good teaching. The practical challenge is how to reconcile an inventory/checklist approach to describing the language elements in subject teaching with a dynamic and situated pedagogy.

9.1.   LANGUAGE AND LEARNING

Thinking about learning in all subjects has developed considerably in the last 50-odd years. The view that saw learning as a process of transmitting information to fairly passive recipients has given way to an approach that recognises the need for learners to be active participants in the learning process. This in turn has led to a widening of pedagogic approaches, including tasks, group work of different kinds, presentations, discussions, etc. Different terms like "constructivism", "dialogism" and "pupil-centred learning" have been used to describe approaches that go beyond transmission teaching to acknowledge the active role of the learner in creating meaning and constructing knowledge. The stimulus for these developments in subject teaching has in many cases been cognitive psychology and theories of learning rather than thinking about language. However, an understanding of the relationship between language and learning from an educational linguistics perspective leads to similar conclusions about practice. If the role of language is not just to transmit content but also provide an essential means of creating meaning and developing understanding, then the relationship between language and learning, and the importance of learners actively using language, becomes clear. For subject teachers still committed to a largely transmission model of teaching, thinking about language and learning can be a challenging but exciting invitation to widen their repertoire of practical teaching approaches. For the many subject teachers who have embraced more contemporary thinking about learning, an obvious question is whether recognising the key role of language can lead to even further advances in teaching methodology. The rest of this chapter will examine some practical approaches that arise more specifically from an awareness of the importance of language in the classroom. The intention is not to be comprehensive but rather indicative of some of the practical implications of being "language sensitive" in the subject classroom.

9.2.   APPROACHES TO WRITING

In many subject classrooms, the writing demands are reduced in order to help students make some minimal achievement, for example, filling in the blanks in texts, responding to multiple-choice questions, and copying notes. These practices are well-intentioned, aiming to give low-achieving students a chance to succeed. However, if taken too far, this approach can limit opportunities for students to write in the format and style that is required for the type of higher-order thinking and subtle distinctions that are essential for the subject.

Writing is important not just for communicating ideas, but for learning, clarifying thoughts and bringing half-formed insights to fruition. Pupils need to learn how to construct extended pieces of writing. It is important, therefore, not only that writing has a significant place in all subject classrooms, but that appropriate support is provided by the teacher. All too often, students are simply given the instruction to write without any further explanation, feedback or support. It is little wonder that so many students say they find writing difficult or "boring" and become easily demotivated.

Metalanguage (language used to talk about language) can be helpful for students when they are developing their writing competence, but such terms are a means to an end and not an end in themselves. Words like connectives, verbs, tense, and so on are useful when pupils are considering sentence structure and how to improve the syntax of their writing (the way words are put together in a sentence). Similarly, consideration of etymology (the origin of words) can help with making inferences about the meanings of words. It is important, however, that a focus on words and sentences and associated technical terms are taught in the context of language use. In the traditional approach to language teaching, specialist terminology is given a central place and is often taught only through decontextualised exercises. With the advent of "language in use" approaches (see Chapter 7) the use of specialist terminology has diminished. However, such terms arise from the regularities of language use and provide valuable tools in acquiring language competence. Students need to be able to talk in an informed way about language in all their subjects. A degree of metacognitive awareness and the associated terminology combined with using language in context will help students, for example, talk about the strengths and weaknesses of different texts, the use of appropriate grammar, the appropriateness of different genres for different purposes, differences between texts, and their own difficulties in finding the right structure for a text. Analysing different models of writing is also an important part of language education in all subjects, and to do this effectively students need to be able to draw on appropriate terms. These will range from the names of parts of speech to different operators (persuading, analysing, describing) and different genres, cognitive-linguistic functions and registers. Student writers often need to learn how to use language to "signpost" the structure of their writing. By focusing on a better structure for their writing that is more transparent for the reader, they will also be clarifying their own thoughts and understanding concepts in more depth.

It is important that teachers of subjects liaise with language as subject teachers to make sure that there is consistency within a school on the use of terminology, for it is in the language as subject classroom (and to some degree the foreign language classroom) that the basic analytic tools are likely to be taught (see Chapter 7). There is no one "correct" set of terms or way of categorising language – what is important is that teaching is informed and consistent across subjects. This is where the role of a school language policy is important.

Teachers who do not teach language subjects may feel reluctant to engage with the specifics of language education in their subject because they may be reluctant to acquire new knowledge and expertise. However, it is more often a case of making explicit the knowledge about language that is implicit, and that subject teachers may take for granted. Take for example the use of connectives (words that extend a sentence or connect sentences), common in many subjects. These can easily be ignored by the teacher as a specific focus in teaching because they are so familiar. However, many students do not find it easy to use connectives automatically in their writing, and they need to be helped to understand when these can be usefully employed. Connectives take different forms and are not superficial additions to a text, but are invariably connected with thinking processes. They can, for example, relate to cause and effect (therefore, as a result, consequently), emphasis and qualification (in particular, more importantly, nevertheless), sequencing (firstly, in addition, to begin with), illustration (for example, this is shown by, for instance), and conclusion (to sum up, in conclusion, to conclude). It is not a question of subject teachers choosing a separate occasion to "teach connectives", but rather having an awareness of their variety and function and being able to draw students' attention to how they operate in texts as well as helping students with appropriate forms of language when needed.

A very effective way of helping students to improve their writing is through feedback. A traditional approach to writing was to focus only on product without attending to process. Learners would be given a task to complete and then assessed on the outcome without any support or intervention. A more process-oriented approach takes seriously the importance of gathering ideas, planning, drafting, receiving feedback, editing, revising and learning skills and strategies for writing. Feedback, either in formal or written form, can be provided at any stage in the whole process, either from the teacher or peers. Pairs or groups in the class can review each others' work and make suggestions for improvement; it is often helpful for the teacher to provide prompts to facilitate this type of work. Such a prompt sheet might refer to the genre that has to be employed and its particular characteristics. A helpful form of feedback is through "conferencing" or dialogue that operates in a more exploratory style than simply suggesting corrections, for example: "have you thought of ... would it be better if ... are there

other ways of saying that …?" Encouraging students to think about audience (who is the writing for? what does the reader need to know? will the audience change the approach to the writing in any way?) will help them to see the importance of the particular genre they are using. It is at this stage that feedback can help students understand different vocabulary choices, uses of first and third person, and uses of tenses, prefixes and suffixes. It can be liberating for students to know that first drafts can be restructured and sections rewritten; this may help them overcome the uncertainty that may take hold of them when faced with a blank page. The use of technology, too, makes the process of creating and comparing drafts and providing feedback much easier.

It is entirely appropriate that subject teachers focus on content when providing feedback on the final product. However, feedback on the language is important to help learners develop their grasp of academic types of writing, including recognition of what has been achieved as well as suggestions for future improvement. It would be wrong to see this as an entirely additional and separate aspect of feedback, for integration of content and form is desirable. For example, it is not so much advice to students to "use more paragraphs" but rather feedback such as "dividing the text into paragraphs would have helped the readers see that different sections deal with igneous, sedimentary and metamorphic rocks" that may be useful. Making the criteria by which the writing will be evaluated, including the language criteria, explicit in advance can help focus the mind of the writer. An agreed policy on approaches to assessment and marking across all subjects in a school, including use of terminology, will provide consistency and reinforcement for learning.

As suggested above, it is usually not enough simply to ask learners "to write": teachers need to be more specific about the type of writing they are asking learners to do (for example a letter, report, essay, brochure or narration, description/exposition, argumentation, instruction) and accordingly be more focused in the type of support they provide. An important part of language support occurs when addressing text in its entirety rather than just at the level of words and sentences. Students should be given challenging tasks that are supported or scaffolded sufficiently well so that they can make progress without becoming demotivated or disillusioned (see Chapter 8). Such support in the classroom should not be formulaic or mechanistic, but requires sensitive judgment so that learners are suitably challenged. Typical activities include: discussing with the whole class how to structure the writing and providing examples of what to include; providing a model of the writing genre they will have to produce for analysis (perhaps on a different topic to avoid mere copying); using several models of the genre in order to highlight common features through an enquiry approach; and providing writing frames for particular writing tasks, for example providing the opening sentence of each paragraph (Figure 9.2).

Figure 9.2: Using a writing frame in an art lesson[76]

In an art lesson as part of a project on artists from different cultures, thirteen-year-old students were asked to research independently into individual artists, with a view eventually to creating a brochure. They were given a framework to structure their writing divided into (i) facts ("the artist's name was … I found out that the artist … the painting I am looking at is called … it was a painted in … the medium used was … the art work is … landscape, portrait, still life"); (ii) description of painting (in the foreground there is … in the middle ground there is … in the distance there is … the colours in the painting are … the composition is … the overall mood of the painting is …); and (iii) critical opinion (I think the artist was trying to … I like/don't like this piece of art work because …).

It may also be helpful to provide or construct an outline with the class with sub-headings of sections; brainstorm the possible content as a form of pre-writing as a whole group; ask individuals or groups to provide their own outline before writing; highlight key vocabulary that is likely to be needed; provide a text that needs to be rewritten in some way, for example making the tone more formal and less colloquial; construct a text together as a group with teacher as scribe; use a visual aid relevant to the theme to help focus the writing; ask the writer to think about audience and purpose before planning the writing; and demonstrate an entire writing process by collecting random ideas, planning a structure by consulting a model, getting started, completing a first draft, reviewing and providing feedback, and producing a finished write-up. Once again, an inventory of different language uses that are common in the subject can help the subject teacher understand the type of support that is helpful for particular writing tasks. Figure 9.3 shows how a written task may be supported; the level of support may be too little or excessive for some classes. This is a useful reminder that teaching examples cannot be applied unthinkingly to any situation: the context, including the classroom culture, will determine the appropriate choice of activity.

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76. *Source*: Qualifications and Curriculum Authority (QCA) (2001), "Language at Work in Lessons: Literacy Across the Curriculum at Key Stage 3", QCA, London.

Figure 9.3: Providing support for a writing task in a geography lesson[77]

> For a geography lesson in a primary class of ten-year-olds, the students were given photographs of their local town. In groups they were asked to complete a table with relevant adjectives in one column and nouns in the other to describe what they saw. They were then asked to underline positive aspects of the town. Their task was to write an article to persuade people to move to the town. They could draw on previous work describing different types of land use, such as residential, industrial, leisure and recreational. The teacher provided examples of words and phrases that could be useful for their writing and structure: listing points (firstly, to begin with); examples (for example, for instance); changing topic (turning to, as regards); contrast (however, on the other hand); emphasis (in particular, more importantly); and summing up (in conclusion, to sum up).

In any single classroom, there is likely to be a wide range of achievement and a variation in language competence. For some students, the language of schooling will not be their first language. This presents a particular challenge for teachers, who must find ways of ensuring that all learners can access the lesson and make progress. It sometimes helps to provide particular students with different tasks, but it is important not to isolate them from social contexts for learning. Thinking about how to introduce a new theme is important. This idea is not unfamiliar in general accounts of learning and is included in such familiar phrases as "start where the learners are" or "relate new knowledge and understanding to what is already familiar", but it is also an important aspect of including more vulnerable learners. Finding an appropriate introduction that is likely to engage all learners and engage interest and motivation can to some small degree compensate for language difficulty. Students also may be more able to support each other through a shared interest and may be helped to find their own level of work through negotiation within a common framework. Other ways of ensuring that students who have more limited competence in the language of schooling are catered for include: differentiating tasks; using mixed-group tasks; providing individualised support from the teacher; using graduated tasks that become progressively more challenging; and allowing students to write bilingual texts.

9.3. APPROACHES TO READING

The academic language that students face in the context of their subjects is often very challenging and it can be tempting for subject teachers and textbook authors to simplify the language to make it more accessible. This is sometimes appropriate, but the danger is that students are not sufficiently exposed to complex models of language use that will help their own language development. Often subject teachers rely heavily on oral explanations, which is an important part of the teaching repertoire. However, it is important to give students the experience of reading demanding texts. Activities that are designed to introduce the text before reading can help motivation, activate prior knowledge, open up key themes and invoke curiosity so that the process of reading is still challenging but less confusing and alienating. These techniques are perhaps more familiar in the context of language as subject, particularly in the teaching of literature, but they can be easily applied to all subjects because the theoretical principles are the same. They are based on the assumption that readers need to be active enquirers after meaning and not passive in their responses to text. Such "ways in" to a text might include: interrogating a picture that either accompanies the text or is relevant to the theme; presenting one key sentence for initial discussion; examining the title to try to anticipate the content; asking questions about the theme that engage with the learners' own experience; and introducing key technical words (see Figure 9.4).

Figure 9.4: Finding a "way in" to a topic in science[78]

> In order to introduce the topic of static electricity with a class, the students were asked to describe their experiences with static electricity such as clothes, hair, touching a metal doorknob, etc. This was followed by a practical demonstration using a balloon. Pupils were told that later in the lesson they would read a passage explaining static electricity containing specialist words (many of which were familiar to them): atom, electron, proton, neutron, positive charge, negative charge, but that before reading the passage they would attempt a task. They were asked in groups to guess a possible explanation of static electricity and report back as part of a class discussion where the different explanations were considered. The passage was then distributed and read.

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77. *Source*: Strong J. (1999), *Literacy at 11-14: a practical guide to raising achievement through whole school literacy*, Collins, London.
78. *Source*: Strong J. (1999), op. cit.

After reading a text, a frequent approach is for the teacher to ask questions to test comprehension either orally or in writing. This often takes a limited form with closed questions and short, truncated answers that are then processed by the teacher. The students in effect do very little cognitive work, and just fill the linguistic spaces that are created for them. However, this is not the only possible approach and testing comprehension may be premature for some learners, who need more time to become familiar with the complexities of the language and content. Directed activities can help learners with understanding and can also help develop reading strategies. For example, the text is printed on paper that is cut into sections and students are asked in groups to reassemble it to draw attention to its structure; only the first section of the text is read and students try to predict what comes next; groups are asked to insert missing words that have been deleted; they have to invent a title and sub-headings; the text is annotated by students underlining two or three key sentences, key words or technical words; they create a diagram to go with the text; students write questions based on the text; they are invited to sort out cards with statements on them into those that are true or false according to the text; and the text is transposed by the students into other formats, for example a newspaper article or poster. Such activities can be helpful in giving learners time to assimilate complex new language and to understand the genre they are faced with, its structure, intention, implied audience, strengths and weaknesses. The preoccupation with "pace" in many modern classrooms does not always give students enough time to become sufficiently familiar with difficult texts to deepen understanding. One of the subject teacher's aims is to familiarise students with strategies to help them read challenging texts independently and use them to inform their own writing.

With these approaches to reading, it is possible to draw attention not just to the content but to the text itself at word, sentence and text level. This includes examining the genre, its structure, who it is written for, what its purpose is, its technical language and type of sentence and clause variation (simple, compound, complex, etc.). This is where an inventory of genres and their common characteristics can be helpful for subject teachers.

9.4.   APPROACHES TO SPEAKING AND LISTENING

Oral work has come to the fore in many modern classrooms in all subjects, but in many cases it is used ineffectively and it is subject to misunderstanding. The misunderstanding arises from the assumption that because speaking is acquired naturally, oral skills do not need to be taught. This is part of the same misunderstanding that ignores the importance of academic language in general because of a failure to differentiate sufficiently between the more personal and social uses of language and the language that is required in the learning context (see Chapter 2). The oral work in many subject classrooms is often dominated by question-and-answer sessions. Even open-ended (as opposed to closed) questions that require more than yes/no answers often do not give students enough opportunity to take initiatives with talk. More exploratory forms of talk that involve more than simply filling in the gaps left by the teacher can be developed by setting tasks for pairs, groups or for the whole class, for example in prioritising a list of statements about a topic, sorting or matching cards with different statements or pictures, preparing a presentation as a group, or discussing a problem.

The preparation of more formal presentations will allow the teacher to draw attention to the appropriateness of particular language registers in different contexts and for different purposes. The process of preparing an oral presentation can be treated much like the drafting process in writing, providing opportunities for the teacher to help students, for example, to develop an argument, use illustrative material, and make their language more varied (using alternatives to "and" and "but"). In group work, the skills of chairing, note-taking, summarising and listening need to be explained and not simply taken for granted. Listening is not just a matter of hearing and, as with reading, needs a proactive attitude that seeks understanding. This does not necessarily come naturally to students and they can be supported by, for example, activating prior knowledge, providing a specific goal for listening in advance, developing active strategies such as forming questions, producing summaries, and clarifying the main focus (Figure 9.5).

Figure 9.5: An example of oral work in a science lesson[79]

At the end of a project on a science topic, the primary pupils were asked to present an oral argument. In order to help them, the teacher provided an outline of a framework they could use. She stressed that they could if they wished deviate from the structure but that it was intended to give them help if they needed it. She provided examples based on a light-hearted argument that the earth is round/flat so that they did not rely too much on the framework example for the actual content:

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79. Adapted from Wellington J. and Osborne J. (2001), *Language and Literacy in Science Education*, Open University Press, Buckingham, p. 74.

There is a lot of discussion about whether (the earth is flat);

The people who agree with this idea claim (it looks flat; if it was round people would fall off, ships would drop off the edge);

They also argue that (photographs could be fake);

A further point they make is (it looks flat in photographs taken from the air);

However, there are also strong arguments or evidence against this view. These are (pictures of the earth from space show it is round; the shadow of the earth on the moon is round; it explains why shadows of the sun vary from nothing at the equator to much longer lengths towards the North Pole);

Furthermore they claim that (people are held on to a round earth by the force of gravity).

After looking at different points of view and the evidence I think that ...

Drama and simulation activities are increasingly being used in subjects other than just language as subject. A fictitious context in which the students take on different roles can provide a focus for the discussion of what language registers might be appropriate. The protection of the role means that the students' own personal language is not subject to criticism, which can be alienating if approached insensitively. A simulated meeting to discuss whether a power plant should be built in the local area will allow students to take on different roles (technical experts, press, local interest groups) so that the technical subject knowledge is embodied in a context that addresses wider value issues. Other drama techniques such as questioning in role (the teacher or a pupil takes on the role of a character such as a person from history to answer questions) can be used to promote purposeful talk. The creation of a simulated documentary programme can be a useful way of consolidating knowledge and understanding at the end of a project.

9.5. CLASSROOM CULTURE

One of the key challenges for subject teachers is to help students acquire the academic language of their subject. There is a virtual paradox at the heart of this process: academic language tends to be more objective, distanced and decontextualised, whereas the best teaching is likely to be subjective, engaged and richly contextual. Progressive and humane approaches to teaching often, understandably, place student interest and engagement at the heart of the learning process but, as exemplified in the case of reading and writing, this sometimes leads to a diminution of challenge. Some progressive classrooms run the risk of elevating comfort at the expense of challenge, leaving students where they started rather than taking them on a journey towards richer and more complex uses of language.

This does not mean that the teaching of language in the subject classroom should become linear, exaggeratedly systematic and central. It is important that the language elements are seen to support rather than dominate the understanding and learning of subject content, which must be at the forefront of classroom activity. It is not a question of students stockpiling language elements for future use, but being supported in their use at the appropriate time. As part of a shared policy on language in school it is important to look at classroom methods, not with a view to imposing one uniform approach, but in order to share understanding and to recognise where and why common or different methods may be appropriate. As part of a language policy, it is also important that teachers have a common approach to diverse aspects of language use. It is important, for example, not to ban informal communication in the classroom because this is valuable for informal learning in social contexts and for creating a relaxed atmosphere. However, students should be aware of the value and appropriateness of different registers.

Implementing a successful policy on language across all subjects in school is as much about creating a culture as it is about employing particular teaching methodologies or following a syllabus. This includes developing positive attitudes of curiosity towards language, a readiness to acquire specific knowledge and relevant terminology, an openness to diversity, a confidence in persevering with challenging texts and a command of strategies and techniques when writing.

Chapter 10
Curriculum development

I n the context of education, the word curriculum is generally taken to mean a course or "plan for learning". This short definition (reflected in related terms in many languages) can be amplified for specific educational levels and contexts. The development and implementation of a curriculum operates at various levels of the education system. These levels can be described as international (supra); national/regional (macro); school (meso); class, teaching group or teacher (micro level); and even the individual (nano) level. The levels interact, and effective curriculum planning must allow for all of them.

The macro and micro levels are the most widely recognised in educational literature and practice. The supra level becomes increasingly visible through international policy discussions, where common aspirations and frameworks are formulated – the CEFR[80] is a good example of this tendency within Europe: countries want to compare their educational outcomes. The same is true for large-scale studies like PISA or Trends in International Mathematics and Science Study (TIMSS). The meso level is especially prominent in countries where schools are active in developing their own curricula. The nano level, finally, relates to the growing emphasis on individual responsibility for (lifelong) learning and development, reflecting both societal trends as well as theoretical (for example socio-constructivist) visions that emphasise the need for learners to become active in constructing or creating their own insights and knowledge.

The process of curriculum development can be seen as narrow (developing a curricular product) or broad (comprehensive and ongoing improvement). In order to address tasks of curriculum decision making and implementation successfully, a broad description of curriculum development is often appropriate: it is usually a long and cyclic process with many stakeholders and participants involved. In this process, the reasons for changing the curriculum are formulated, ideas specified and transformed in programmes and materials, and efforts made to realise the intended changes in practice. Generally speaking, curricula can be represented in various forms. Clarification of these forms is especially useful when trying to understand problematic attempts to change or improve the curriculum, as major gaps between ideals and outcomes are often manifest. A common broad distinction is that among the three levels of an "intended", "implemented" and "attained" curriculum.[81]

Besides these differences in level, breadth and forms of representation, curricular issues/problems can be approached from various analytical angles. Again, several perspectives are distinguished: (a) focusing on the traditional question about what content and procedural knowledge is most worth including; (b) referring to how the task or challenge of bridging the gaps among intentions, realities and outcomes is addressed; and (c) referring to the curriculum decision-making processes themselves, where values and interests of different stakeholders and agencies are at stake. The more "critical" perspectives often dealing with the analysis of what is wrong in education will be left out here, because we prefer to focus on positive development and improvement in moving towards the explicit inclusion of language competences in subject curricula. This chapter will largely deal with the level of intentions and that of cognitive-linguistic knowledge as part of subject literacy underlying the communicative competences needed for successful subject learning and teaching.

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80. www.coe.int/lang-CEFR.
81. For a more refined typology see Akker J., Fasoglio D., Mulder H. (2010), *A curriculum perspective on plurilingual education*, Council of Europe Publishing, Strasbourg, available at: www.coe.int/lang-platform ("Curricula and evaluation").

10.1. VARIETY OF APPROACHES TO CURRICULA

As argued already in this handbook, language development as part of subject teaching and learning cannot be expected to develop all by itself. Rather, it requires all stakeholders to embrace a broad definition of what it means to be subject-literate. This will lead either to a general definition of linguistic competences as standards across and for all subjects (top-down approach) or to a bottom-up account of what is to be included for each subject in order to develop the necessary linguistic competence. In turn this will lead to a description of how these competences show up in performance (requiring descriptors) and what the expected level of attainment should be (in terms of acceptable or minimal standards). It is also necessary to identify where the same language demands are made across subjects or where overlaps between subjects occur. All of this requires a written document in the form of a curriculum in which goals for subject-based language learning and concrete linguistic goals related to content aims are spelled out, both within and across subjects. Such a document is needed above all for identifying what is required, although subject teachers are likely to be flexible in interpreting and applying it. The specific components that need to be shown in relation to one another in such a curriculum document are content and content-specific language requirements on the one hand, and forms of general academic language use on the other.

How can such a curricular document best be drafted? Should it focus on the subjects, spelling out their linguistic demands or expectations and comparing and generalising from there across all subjects? Or should it start with outlining the more general academic language skills needed for learning in the different areas of schooling (and beyond) and then turn to the individual subjects later in order to have them identify and check their own specific needs against that generalised list or frame? What are the preferred entry points, and what possible procedures work best within diverse educational contexts? How can the different levels mentioned above best be taken care of, either sequentially or in parallel?

Whereas foreign language teachers have in the CEFR an almost perfect reference point for seeing how their subject relates to a broad curriculum development process, this is not the case for the language of schooling in other (non-linguistic) subjects. A similar approach would be to formulate targets for language learning in subjects, to describe what subject learners have to do in order to successfully achieve subject-based communication goals. This might lead eventually to a definition of levels of language proficiency in order to measure language progress within and between subjects. However, such a common basis for a broad curricular approach to subject-embedded language learning and for the elaboration of national programmes and materials across Europe has not been developed as individual contexts vary so much. Instead, the Council of Europe has documented different initiatives within member states and developed four case studies using individual subjects as examples (history, sciences, mathematics and literary education). These situate the language requirements and language learning for each subject within a broader educational perspective. In particular, these examples identify the necessary steps in the overall curriculum planning process: (a) analysing the underlying values and goals of a subject; (b) linking cognitive operations, language and content to one another; and (c) describing and giving formal recognition to partial skills, by making general and specific language-learning objectives explicit and thus enhancing language-learning awareness within subject teaching. In principle, the results seem to be transferable to other subjects (see Chapter 7).

Other approaches have been adopted in Norway and North Rhine-Westphalia (NRW, one of the German *Länder*), where attempts have been made to identify the central or most important components and language competences on a macro level that should be mastered by all students at the end of compulsory education, independent of subject and context of acquisition. In Norway, a generic framework for transversal competences was adopted by the Norwegian Ministry of Education and Research as a basis for the development of all subject curricula in compulsory and upper-secondary education. In NRW, frameworks of language competences are in the process of being adopted or validated for different subjects.

Another approach is followed by Switzerland within its HarmoS project: in addition to defining basic competences (*Grundkompetenzen*) in the different subjects and in the respective languages of schooling (German, French, Italian and Rumantsch) across all subjects,[82] it has also directly integrated some linguistic goals in connection with certain content areas of certain subjects, but not with other areas, although specific language competences might be equally required there in order to deal appropriately with the subject matter in question.[83]

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82. See EDK (Schweizerische Konferenz der kantonalen Erziehungsdirektoren) (2011) Grundkompetenzen für die Schulsprache http://edudoc.ch/record/96791/files/grundkomp_schulsprache_d.pdf.

83. See the formulations of language competences within the natural sciences http://edudoc.ch/record/96787/files/grundkomp_nawi_d.pdf; see also Chapter 7, with respect to mathematics.

Another approach has been developed by Luxembourg in an attempt to support trilingualism, building up from the primary level of schooling with first Luxembourgish and then German as the language of instruction. In lower secondary school, German remains the language of instruction except in mathematics, where French is used. In the (academically minded) gymnasium, there is a switch towards French as the main language of schooling in grade 10, whereas in the technical lyceum German remains the dominant language of instruction (with the possibility of choosing between French or German for some schools). One striking feature within this trilingual set-up has to be mentioned specifically: due to the influx of large numbers of migrants into Luxembourg, it is perhaps not surprising that German has become a foreign language for a majority of learners – hardly 40% of them still have a Germanic background on entering primary school. This development changes the conditions of planning and teaching dramatically. Accordingly, it has been challenging for curriculum reformers to organise the linguistic dimension in all subjects, starting from primary school. There is not enough empirical data as yet to see how potential transfer of cognitive and linguistic competences is happening or could happen in the mind of learners among the different languages at play (including heritage and/or migrant languages) within the educational system of Luxembourg.

Outside of Europe, the George Washington University (2014) in the United States has presented a planning model for the integration of content and language competences. It focuses on specific subjects/topics (for example biology/environmental issues, algebra), different grade levels and content-learning standards and then relates academic language frameworks to them, thus describing and identifying the language associated with the set of standards in question. The framework is divided into a set of language components, each component addressing three features of academic language, namely cognitive-linguistic functions, grammatical structures and academic vocabulary. This dynamic, web-based analysis tool can be used to develop academic language frameworks for any content area or grade level. In particular, it highlights the different dimensions of this specialised (academic) language within and across disciplines, which is crucial for learning content and demonstrating knowledge and skill; it can be related to the so-called common core standards defined by most states in the US for each school subject. Interestingly enough, the project began with a focus on meeting the academic needs of vulnerable learners but came to the realisation that attention to academic language when teaching has the potential to help all students with content-area learning.[84]

As we can see, a variety of approaches are available for study and application by different local, regional and national agencies in their attempt to include linguistic competences as part of the content curricula. These approaches operate on different levels, use different entry points and serve a number of different purposes. They also come from different theoretical and conceptual backgrounds and can be used according to specific choices and preferences, possibly in combination. It all depends on where one wants to start the curricular description and revision process. In the following section, some typical approaches will be illustrated in more detail.

10.2. SUBJECT APPROACH TO CURRICULUM DESIGN (MICRO LEVEL)

It is necessary to spell out for each subject what the linguistic components of the specific subject and of learning this subject are and what level of mastery can be expected from each student. The Council of Europe has provided four case studies in order to illustrate the procedures necessary for the identification and description of the linguistic dimensions in a particular subject.

These case studies on history, the sciences, mathematics and literary education are characterised by the same five-step procedure. In the procedure shown in Figure 10.1, "science" can be replaced by any subject.

Figure 10.1: Steps for identifying language competences in teaching/learning a specific subject

1. Inventories and description of the educational values targeted by science teaching practices.

2. Inventories and description of the social situations of communication and decision making involving science in the learners' social environment.

3. Inventories and description of basic subject knowledge structures.

4. Inventories and description of the existing in-school communication situations for the acquisition and construction of basic knowledge and procedures in science, respectively.

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84. See "English Language Proficiency Standards and Resource Guide" (2007), available at www.wida.us/get.aspx?id=4.

The choices to be made among these possibilities lead to the definition of the purposes and objectives of education in science within compulsory schooling. Based on steps (1) to (4) it is then possible to create:

5. Inventories and descriptions of the specific linguistic, discursive and semiotic characteristics of relevance for the types of discourse involved in science and learning practices in the classroom.

These characteristics should be taught in their own right in each subject area.

The following examples and illustrations for steps 1 to 5 (Figure 10.2) are taken from the science and history studies mentioned.

Figure 10.2: Examples from subject studies of the Council of Europe

Step 1: Educational values in subject learning and teaching
▸ To be a decisive factor in reconciliation, recognition, understanding and mutual trust between peoples, especially by introducing multi-perspectivity into historical research and accounts.
▸ To play a vital role in the promotion of fundamental values such as tolerance, mutual understanding, human rights and democracy.
▸ To encourage recognition and understanding of different interpretations of the same issue and their relative legitimacy, building trust between peoples, by accepting multi-perspectivity in scientific research and explanations.
▸ To be a fundamental component in the construction of a Europe based on a common cultural heritage, with a humanistic and a scientific orientation, working towards the development of a knowledge society in which conflictual factors are accepted.
▸ To be an instrument for the prevention of crimes against humanity and securing the quality of human existence.

Step 2: Social situations of knowledge use
▸ Political agendas where scientific knowledge or assumptions are used for persuasive purposes to define, for example, "progress" or "security" and justify actions to be taken such as dealing with atomic power, pandemic threats, or CO_2 emissions.
▸ Exchanges between citizens that presuppose general knowledge of a scientific nature.
▸ Family and neighbourhood contexts where personal knowledge and evaluations are passed on or mixed with expert knowledge and opinions.
▸ Accounts in the media of technological breakthroughs, celebrations of great scientists, expansion of knowledge about the universe, etc., or of actual or potential misuses of scientific discoveries.
▸ Reading both general and specialist science press and didactic publications, etc.
▸ Watching different kinds of entertainment both fictional and documentary – films, television programmes, theatre – with a scientific content, for example the re-enactment of scientific discoveries.
▸ Using sources of reference such as websites.
▸ Visiting museums, exhibitions, and similar sites of natural science and technology.

Step 3: Components of methodological competences
▸ Formulate relevant questions about the available documents/data source.
▸ Examine potential sources of information and distinguish between primary and secondary sources.
▸ Assess such sources in terms of validity, possible bias, accuracy and reliability.
▸ Use the sources available to identify relevant information to answer certain questions.
▸ Analyse and structure this information on a particular topic/issue and relate it to existing/prior knowledge.

▶ Contextualise the information by relating it to information already available about the period, the actors and the transmitters of knowledge.

▶ Scrutinise the available source materials for rational justification and rank them in terms of their significance.

▶ Acknowledge that scientific inquiry and findings are not value-free.

▶ Recognise one's own perspective, bias and prejudices and take account of them when interpreting evidence.

▶ Acquaint oneself with the history of science as a particular form of the construction of knowledge.

Step 4: Existing in-school communication situations

▶ Identify types of sources used/academic sources.

▶ Identify types of reasoning, based on data/clues.

▶ Notice the strategies/devices applied to boost popular appeal: for example dramatisation, experts versus laymen, motivating elements, etc.

▶ Identify and distinguish already known and new knowledge.

▶ Place the presentation into a broader context (larger issues, concepts, structures).

▶ Evaluate representational forms chosen specific to the media in question.

▶ Identify simplifications, generalisations, lack of data, allusions to academic controversies, unbalanced solutions, etc.

▶ Understand whether a particular bias is being conveyed.

Step 5: From classroom situations to discursive forms

History-related cognitive skills

▶ Read and summarise relevant documentation.

▶ Locate the different sources of information.

▶ Adapt an existing historical account.

▶ Interpret primary data.

▶ Interpret quantitative data.

▶ Report the opinion of professional historians.

▶ Give and support one's own point of view, explaining its source and nature.

▶ Highlight the gains and the problems.

Linguistic and semiotic skills

▶ State a plan, a scheme of narration.

▶ "Give clear, systematically developed descriptions and presentations, with appropriate highlighting of significant points" (Descriptor B2 in the CEFR p. 58).

▶ Emphasise the stages of the presentation as it unfolds.

▶ Give linguistic commentary concerning tabulated data, a diagram etc.

▶ Make the presentations attractive: manage voice and intonation.

▶ React with restraint to objections or criticism from the class or teacher.

▶ Answer questions afterwards.

▶ Assess one's own performance.

This approach focuses on subject-related issues, without neglecting the more general goals of education to which the subject contributes. It should be noted, however, that this approach starts from the language competences required at the level of the subject and does not focus on general language competences across subjects. It was thought that subject specialists would feel more comfortable starting with a focus on their own subject and the language components with which they are familiar, rather than trying to select from the whole range of language components and applying these to their subject.

10.3.   FORMULATING A NATIONAL GENERIC FRAMEWORK IN NORWAY (MACRO LEVEL)

The approach taken in Norway in a curriculum reform of 2006 integrated what was called the "five basic (transversal) skills of reading, writing, oral skills, numeracy and digital skills" as competence aims in all subject-specific curricula. The first evaluation of the reform showed that it was not fully implemented in all schools and by all teachers, so it was decided that a revision of the national curriculum was needed to secure its full realisation. The first step in this revision work was the development of a generic framework for the five transversal skills, defining them in operational terms within a reference document based on the principal categories of the CEFR. This skills framework was approved by the Norwegian Ministry of Education and Research in 2012 and was a key reference instrument for national subject-specific curriculum groups when writing or revising the subject-specific curricula for Norwegian, mathematics, social science, natural science and English (Norwegian Directorate for Education and Training 2012).[85] The revised plans were approved in 2013 with guidelines for teachers, collaboration with regional authorities and extensive, nation-wide in-service courses to implement the revised curriculum. The procedures chosen by Norway in their macro-level approach of curriculum design will be described here in more detail.

The Norwegian framework covers both compulsory and secondary education. It aims to promote a common understanding of the basic "skills" as transversal competences and provides a tool for applying categories and subcategories in competence aims in subject curricula. Moreover, the framework illustrates and ensures a common progression both within and across subjects. The primary target audience for this framework are expert groups developing new and revised subject curricula to be approved by the Norwegian Ministry of Education and Research. It has also proved a useful focus for teacher education, for both pre- and in-service teacher training.

The framework is designed in such a way that each of the five skills (Reading, Writing, Oral skills, Numeracy and Digital skills) is defined and then subdivided into four different subcategories to support practical implementation: for example "Writing" is divided into "Plan, Construct, Communicate, Reflect/Assess". Each of these subdivisions is then described at five different levels of performance that are considered to be somewhat "developmental" in nature.

Step one – Defining the skills

As an example, we will use the writing skill, which can be defined as:

> writing involves expressing oneself understandably and appropriately about different topics and communicating with others in the written mode. Writing is also a tool for developing one's own thoughts in the learning process. Writing comprehensibly and appropriately means developing and coordinating different partial skills. This includes being able to plan, construct, and revise texts relevant to content, purpose and audience[86]

Step two – Dividing each skill into subcategories (for example: the writing skill)

Again, using the same example, writing is subdivided into the following four mental activities:

- ▶ Plan involves using different strategies and sources in preparation of writing, and revising texts based on one's own judgment and feedback from others.
- ▶ Construct means to master spelling, grammar, sentence construction, cohesion and text binding on paper and screen together with other modes of expression such as pictures, figures and symbols if relevant.
- ▶ Communicate means being able to express opinions, discuss issues, share knowledge and experience though adapting one's own texts to audience and content and purpose.
- ▶ Reflect and assess means applying writing as a tool to monitor and develop awareness about one's own learning.

Step three – Describing each subcategory at five levels

A key principle of the Norwegian framework is that it identifies sometimes four, sometimes five different levels of performance under each subcategory, depending on the relevance each skill has for a particular subject at

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85. See Norwegian Directorate for Education and Norwegian Directorate for Education and Training (ed.) (2012), *Framework for Basic Skills*, Oslo; see also Ragnhild Falch's presentation (www.coe.int/lang ("Events - 2013").
86. See Table 10.1.

each level. These skill or performance levels are interpreted as progressions, linked to certain "can do" descriptors and thus to competence expectations throughout compulsory, lower and upper-secondary education (see Table 10.1). The level descriptions are the basis for designing subject-specific competence aims reflecting the specific needs and requirements of the different subjects. The Norwegian national subject curricula describe expected student outcomes in terms of operationalised competence aims after the 2nd, 4th, 7th and 10th year of compulsory education and after each year in upper-secondary education. Descriptors for one basic skill are presented in Table 10.1.

Table 10.1: Writing as a basic skill (with four subcategories and five skill levels)

Subcategories	Skill Level 1	Skill Level 2	Skill Level 3	Skill Level 4	Skill Level 5
Plan	Can take notes and use simple sources as basis for writing. Can make simple changes in texts after feedback.	Can use notes and sources as basis for writing and can quote sources. Can revise texts after feedback.	Can use different notes and various sources as basis for writing. Can assess and revise texts and describe their qualities.	Can choose varied strategies as basis for writing, and integrate, refer and quote relevant sources. Can revise texts + assess their qualities.	Can choose relevant writing strategies and use sources critically and verifiably. Can critically revise one's own texts.
Construct	Master ortho-phonic writing by hand and on keyboard. Can combine different means of expression, such as drawings, pictures, symbols and verbal language.	Can construct legible and clear texts with correct spelling by hand and on keyboard and combine different means of expression.	Can construct texts using subject-related terminology.	Can construct complex subject-related text using relevant terminology and means of expression adapted to subject and purpose.	Can apply and make full use of specialised subject-related terminology and text genres.
Communicate	Can express one's own opinions and express personal experiences and systematise simple texts.	Can express one's own opinions, take different perspectives and formulate questions. Can narrate, describe and organise different genres of subject-related texts.	Can argue by substantiating one's own points of view. Can write subject-related reports, document procedures and results and formulate hypotheses.	Can argue for and against points of view and make a decision. Can explore subject-related topics and write in different styles, using different structures.	Can build up a holistic argumentation. Can critically explore and problematise subject-related topics.
Reflect and assess	Can reflect on personal experiences in simple texts.	Can reflect on personal and subject-related experiences in different genres of texts.	Can reflect on one's own learning when working with subject-related texts.	Can reflect and assess one's own learning when working with subject-related texts.	Can reflect critically on product and assess one's own learning when working with subject-related texts.

Step four – Formulating
subject-specific competence aims based on the framework

The principles and levels of the framework were applied for the development of national subject curricula. How exactly this was done can be illustrated to some extent by the following example taken from the national subject curriculum for natural science 4th year (see Table 10.2). The revised national subject curricula based on the above framework for basic skills was approved by the Norwegian Ministry of Education and Research in June 2013.

Table 10.2: Integration of "basic skills" into the competence aims of a subject (natural sciences)

Framework Writing as a basic skill Level 2	Natural science Competence aims 4th year compulsory education After the 4th year students should be able to
Can use notes and sources as basis for writing and can quote sources	▸ observe and take note of what is occurring in a tree or in another perennial plant over time ▸ gather and process information about the natural sciences topics from various sources
Can express one's own opinions, take different perspectives and formulate questions	▸ discuss the life cycle of some plant and animal species and ask explanatory and inquisitive questions about the theme
Can narrate, describe and organise different genres of subject-related texts	▸ use concepts within natural science to describe and present their own observations in different ways

The Norwegian national framework for transversal skills was approved and issued by the Ministry of Education and Research and provides the basis and starting point for the development and revision of all subject curricula in compulsory and upper-secondary education. The advantage of the framework is that it provides a category-based system of reference for subject curriculum designers and teacher trainers. It has proved an invaluable tool as a reference document that secures the integration of language skills in all subjects, and is being used as a point of departure for extensive teacher training. Furthermore, it is being used to develop subject curricula for special groups, such as learners with hearing or seeing impairments. Research and feedback from teachers and teacher trainers show an increased understanding of and emphasis on the concept of "subject literacies" in the classroom.

10.4. A STRUCTURAL APPROACH TO CURRICULUM DESIGN IN NORTH RHINE-WESTPHALIA, GERMANY

The political and educational situation in NRW was very different. The *Hauptschule* is the lowest of the three-track system in Germany, with a majority of learners from a migrant background. The (subject-specific) curriculum development groups experienced isolation and lack of linguistic expertise and this affected their attempts to modernise this type of schooling. A fundamental change in curriculum reform was badly needed. In particular, it was necessary to define the minimum requirements for all learners in terms of language proficiency across subjects that would guarantee school success and successful integration into work life afterwards.

Accordingly, the "Framework of language competences at the end of compulsory education: language(s) in and for inclusive education in North Rhine-Westphalia (Germany)" (2011) describes three central dimensions of school language, taking a cross-curricular approach: (a) typical school-related genres, (b) basic cognitive-linguistic functions, and (c) repertoire of linguistic means (based on grammar and vocabulary of German as a natural language). Each of these was described separately and also in interaction. It was assumed that these three strands are (theoretically) important, that they contribute to the definition and development of subject literacy in the dominant language of schooling, and that they are central in assessing degrees of mastery in reading and writing across the curriculum.

A fourth dimension was also highlighted, concerning areas of pedagogical action or classroom activities through which different phases or types of mental and linguistic demands on the students can be differentiated.

The model distinguishes three major activity areas (Figure 10.5), all of which relate to different cognitive and linguistic challenges and preferred patterns of learner behaviour. These are:

▶ preparatory or general interaction: negotiation of meaning and participation (relating to the basic preparation and readiness for content engagement);

▶ information retrieval and processing (relating to the acquisition of new knowledge and its incorporation into already existing knowledge structures);

▶ presentation of learning outcomes, including preparation and evaluation (relating to communication of results and negotiation of meaning among peers and with the [subject] teacher).

Figure 10.3: Framework of language competences: exit criteria across subjects
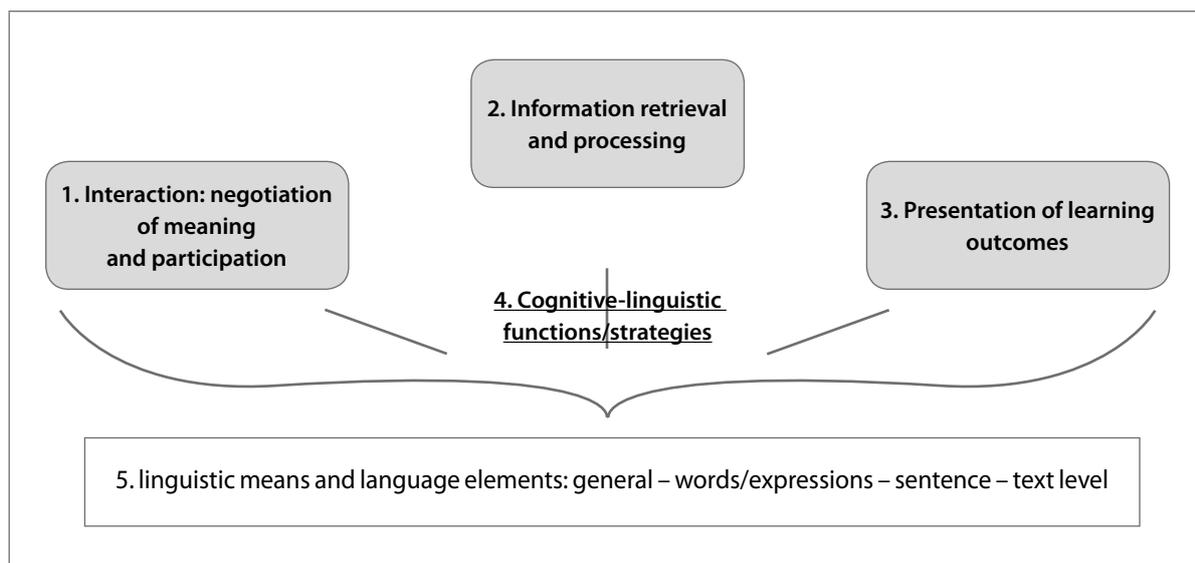
The dimensions of genre are still under-defined in this model, due to a lack of systematic information about their role, quality and naming within the different subjects. On the other hand, the dimension of cognitive-linguistic functions is fully developed; it is considered central for any subject-specific work, be it comprehension of texts or other semiotic forms of meaning or the production of utterances and coherent texts (such as reports, interpretations, solutions to problems). At least eight different cognitive-linguistic functions can be distinguished on the macro level (Naming/Defining, Describing/Portraying, Reporting/Narrating, Explaining/Clarifying, Assessing/Judging, Arguing/Taking (up) a stance, Modelling and Simulating). Cognitive-linguistic functions (including those on a more subordinate or micro level) in their variable linguistic forms constitute the basis for academic thinking and expression, together with genre, grammar and vocabulary. They are at the heart of academic language acquisition and its competent mastery. Finally, the mastery of linguistic means and concrete elements is fully acknowledged within the model, exemplified for German as the language of instruction in NRW. This is an indispensable part of any structured framework.

For each of the dimensions identified, a number of basic descriptors were formulated (some 60 altogether) which reflect the expectations for subject-based language competences to be reached by the end of grade 9/10 (in Germany) across all subjects. Figure 10.4 provides some examples of these descriptors.

Figure 10.4: Examples of general exit descriptors in North Rhine-Westphalia, Germany

Information retrieval and processing

Students can undertake targeted research for information, or, where appropriate, extract relevant information from documents and other media based on their own interests and/or tasks to be carried out.

This entails mastering the following language skills in particular:

▶ acquiring the necessary information through targeted investigation;

▶ conducting simple searches – using a diverse range of information sources;

▶ preparing, carrying out and making use of surveys or interviews;

> ▶ finding one's way around a library and tracing literature or, where appropriate, media dealing with a theme relevant to the subject.
>
> **Documenting, presenting and exchanging results of learning**
>
> Students can describe or present their own ideas and the findings of their own work in an appropriate form and communicate on the subject using the basic language functions listed above.
>
> This entails mastering the following cognitive and linguistic skills in particular:
> - ▶ reporting on or summarising orally or in writing what has been read, heard or seen according to instructions;
> - ▶ presenting complex facts and actions using audio-visual material (such as diagrams, sketches, pictures and maps);
> - ▶ reporting on the results of group work or a project using visual aids suited to the audience (such as posters and mural newspapers);
> - ▶ reporting on processes or arguments in their chronological or logical order using key word charts.

Similar to Norway, but operationalised in a different way, the NRW approach can also be seen as providing a document on general academic language requirements (a general list of exit criteria), which then serves as a frame of reference for adaptation by different subject groups. These groups face the challenge of bringing together the general and the content-specific language considerations in relation to the content itself. Accordingly, the curriculum development groups for the *Hauptschule* in NRW have accepted this general list of exit criteria as a point of departure and as a resource tool for their own endeavours to specify subject-specific descriptors and indicators. In particular, some groups (for example in mathematics, physics or religious education) saw the need to differentiate existing descriptors or add new ones, mainly in the area of cognitive-linguistic functions and concerning certain genre specifications. Others suggested that it would be necessary to introduce sub-components of cognitive-linguistic functions (on the meso and micro level) that are specifically relevant for certain teaching/learning activities in their own subject areas (such as experimentation in the sciences, ethical evaluation in biology, or describing/explaining personal beliefs in religious education). But overall, at least two thirds of the formulations of the frame remained unchanged after validation through the subjects: they were considered appropriate for the domains or subject areas under scrutiny. Certainly, reference to subject-specific content leads to a vast enrichment and concrete specifications of indicators, thus allowing for the construction of multiple lessons and language-sensitive teaching approaches, drawing on appropriate learning tasks and other tasks for subject-specific testing. Figure 10.7 presents some examples illustrating these adaptations.

Figure 10.5: Examples of language descriptors adapted by subjects

> **Framework adaptation/validation**
>
> Conversion of the general list into subject-specific descriptors and indicators
>
> **Example 1 History**
>
> Students are capable of differentiating between the basic types of text that may be used for reporting (such as minutes or transcripts, test descriptions, reports on work experience, press articles, media reports and accident reports) and taking account of their features in their own writing.
>
> Students are capable of differentiating between the basic types of text used for finding out more about the past (such as minutes, press articles, media reports, annals, chronicles and other historical sources). They can distinguish between primary and secondary sources.
>
> Students can identify positions/interests.
>
> **Example 2 Mathematics and religion**
>
> Area: Adding of cognitive-communicative functions
>
> Defining and modelling (for mathematics)

> Area: Enrichment of indicators per subject (religion)
>
> Using subject-specific terminology and explaining the meaning of technical terms by using everyday language specified in connection with "penance", "benediction", "trinity", "divine grace", "salvation", "remission" and the "Creator", among others.
>
> **Example 3: Biology**
>
> On the word level:
>
> Students are able to … identify the meaning of parts of words of Greek or Latin origin, e.g. cytoplasm, protoplasm, dactyl-, derm- …

The adaptations and modifications suggested by individual subject groups varied from case to case; however, the framework and particularly the cross-curricular approach were well accepted and supported. The framework was found to be useful and helped them reflect on the scope of language education within their subject, formulate their specific needs and practices along the lines of subject thinking, speaking and writing, and identify differences vis-à-vis other subject areas. Interestingly, the linguistic competences involved in writing were more of a concern and were discussed by subject-specific groups, whereas subject-related comprehension processes, that is the reconstruction of meaning from a large diversity of texts, were less considered at first. Yet it is well known that academic language features in these condensed and abstract texts and the processes of understanding them can be as challenging as writing tasks, and can sometimes even become an obstacle to full comprehension.

For NRW, the acknowledgement of common linguistic exit criteria and the notion of subject literacies has become an integral part of all core curricula in the *Hauptschule* (and beyond) since 2012. Educational authorities have become much more aware of linguistic issues in subject teaching; accordingly, a basic principle of language "consciousness" for all teaching and learning has been proclaimed and is momentarily spelled out as part of an overall school and teacher education policy.[87] This is in addition to the formulation of binding national educational standards, where we find specific expectations on communicative competence in many subject areas.

10.5. TYPOLOGY OF PROCEDURES

It will be clear from the examples in 10.2 to 10.4 that various approaches to curriculum development and implementation are valid and possible: the most prominent ones are (a) starting by analysing subject-specific goals and linguistic demands, leading to an exchange among subject experts with a view to developing the subject curricula, or (b) starting by developing an overall frame of cross-curricular language competences that will then be validated in the context of different subjects. These approaches are not mutually exclusive, but complementary. In terms of a typology of procedures, we have distinguished between (a) basic values, goals and assumptions relating to the communicative dimensions of knowledge building and content learning; (b) the identification of social as well as classroom practices relating to certain subjects or across subjects; and (c) the genres, discursive forms and underlying cognitive-linguistic functions – either formulated as open lists or within some sort of a frame. Finally, we also talked about the formulations of (precise and transparent) descriptors as opposed to (more or less open or vague) descriptions of necessary experiences and their relationship to educational standards.

It is important to keep in mind that the goal of supporting academic language development in subject learning and teaching is to secure a quality education for each and every individual. This implies equal access to knowledge building, empowering the learners as critical citizens and participants in socio-scientific discourse and affording them intercultural experiences of diversity on the conceptual, geographic and historical level. So schools and the different subjects taught there have to provide experiences that allow students to perceive and encounter such diversity, and acknowledge, embrace and value it, qualifying as democratic citizens in so doing. A curriculum approach that corresponds to these principles will have to be careful not to become too technical in formulating binding descriptors and thus limiting the space of experimentation with new subject-based constructions, insights and understandings.[88] On the other hand, all learners need a clear orientation in curricular terms as regards how thinking, language and content interact in different (subject-specific) contexts, what basic requirements are expected of them over time, and what the acquired competences are good for.

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87. See Ministerium für Schule und Weiterbildung NRW 2011.
88. Fleming M. (2009), op. cit.

The examples presented above demonstrate different possible avenues to a comprehensive approach to curriculum development for subject literacies. A framework approach can lead to initial systematic reflections on what the relevant competences are based on, an understanding of knowledge acquisition and the overall cognitive-linguistic challenges involved in different phases of classroom teaching and learning. The intention is that this will lead to increased transfer across subjects and a more generalised view on the outcomes to be reached and the necessary exit criteria across the curriculum, which will then have to be checked and broken down into subject-based formulations. A subject-oriented curriculum, on the other hand, can be much more precise and detailed, but it will have to be linked and compared with other subject curricula in order to find out similarities or differences. In this way, a common integrated definition of what each student is entitled to know and do in terms of basic discursive knowledge and skills for success in school and life can be sought. In any case, the cognitive-linguistic development of each student and through support from different content areas are the concern of the school as a whole. Whole-school language co-ordination is required, if not a joint "policy" or a written document (see Chapters 6 and 8). Not only will teachers as a group have to decide on how to build up academic language competence and thinking skills through their teaching in the different domains, but they will also have to agree on the overall aims and levels of performance to be strived for and co-operate to achieve them. What is needed in addition to a curricular document is a consensus, if not a pedagogical contract or formal agreement among the teachers of a school, about the central components of overall language competence, the contributions of individual subjects, possible transfers among them and the definition of expected outcomes at the end of certain developmental or institutional stages.

Chapter 11
The language dimension in initial teacher training and continuous professional development

Despite the general consensus that language is important when teaching subject-specific content, there are a number of serious obstacles for schools in their attempt to develop a language-sensitive classroom culture that extends across the whole curriculum. Particularly in secondary education, subject specialists (for example teachers of physics or geography) often claim that the demands of teaching the content of their subject does not allow for language-learning activities, and the learning outcomes do not explicitly specify language-learning targets. Others leave the responsibility for the development of language competences with the language specialists, who are considered to be professionally qualified for this role. In response, teachers of language as subject are often unwilling to accept the role of running what they see as "a language-repair shop".

Despite these barriers, the educational system needs to provide professional expertise and structural support for language education across the curriculum in order to promote equity and quality in teaching and learning. The basis for such a development has to be laid through the specification of learning outcomes that incorporate the language dimension and through curriculum development (see Chapter 10). However, changes in policy documents and curriculum instruments are not enough: implementation strategies are of crucial importance when it comes to integrating the language dimension into content teaching. Three implementation strategies will be briefly characterised in this chapter: integrating the language dimension into continuous professional development of teachers; establishing a support system (literacy coaches) for change-ready schools; and encouraging schools and their staff to evaluate and further develop a language-sensitive culture of content teaching and learning, and provide adequate teaching and learning materials.

11.1. TEACHER TRAINING AND PROFESSIONAL DEVELOPMENT ON A SUPRANATIONAL LEVEL

A very comprehensive approach to introducing the language dimension into pre- and in-service teacher training has been developed by the multilateral Comenius project EUCIM-TE, co-funded by the European Commission, DG Education and Culture within the Lifelong Learning Programme.[89] Although it was primarily devised for improving the learning opportunities of low-achieving plurilingual students with a migrant background, it focuses on mainstream education and the particular language register used in subject teaching across the curriculum. The project proposes a European Core Curriculum for teacher education, based on the foundational principle of inclusiveness. According to its second foundational principle, the European Core Curriculum moves from an approach to language learning that is "compartmentalised" into subjects, to an inclusive approach with language education as an integral part of a generalised and common curriculum process. The international consortium has given it a telling name: Inclusive Academic Language Teaching (IALT). This indicates that subject learning is strongly dependent on learners' access to and competence in language for education and on the particular patterns of academic language use. At the same time, the teaching and learning of content in "non-language" subjects functions as a powerful tool for the acquisition of the dominant language of schooling as a second or foreign language. The project claims that all students with limited access at home to the academic register, including native students from educationally distant backgrounds, can profit from this approach.

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89. www.eucim-te.eu.

Policy makers, administrators, and teacher trainers who are about to revise teacher education (at any level) will find ample resources in the supporting materials published by the EUCIM-TE project. These provide information on the systemic functional linguistic basis for the IALT approach, relating language to social context, and touching on registers and genres in different curriculum subjects and activities. These also address methodological issues for IALT, classroom strategies, and techniques such as reading/writing-to-learn, modelling, the genre-based curriculum cycle and scaffolding.[90] (For a more detailed explanation, see Chapter 7.) The approach is very practical and draws from examples of good practice from a number of different national contexts.

The EUCIM-TE materials leave no doubt that IALT approaches must go hand in hand with organisational and curricular reforms affecting the whole school (school development projects) and the daily culture of teaching and learning (classroom development projects).

11.2.   TEACHER TRAINING AND PROFESSIONAL DEVELOPMENT ON A NATIONAL LEVEL

Issues of language diversity in classrooms are beginning to be addressed in many teacher education systems of the Council of Europe's member states. However, there are large differences concerning the extent and ways and means by which these issues are dealt with, depending on the particular language needs, the administrative structure of teacher-training institutions, and the socio-political dispositions of regional or national governments. A one-size-fits-all approach is not appropriate because of the diverse political and administrative environments in which teacher training is carried out.

As far as language diversity is concerned, at present a vast majority of the institutions responsible for teacher training and professional development focus their attention on language specialists and special provisions for students with a migrant background in order to develop their general competences in the dominant language of schooling, as L2. This is definitely not enough. Since language is the most important tool of knowledge construction in formal educational contexts, there is an urgent need to revise and update the organisational structures and the general pedagogic content of teacher-training programmes for all subjects and for all levels of education. The main aim of such reforms should be to extend the concern for language into mainstream education, that is make all teachers aware of how language is being effectively used and developed in teaching and learning content across all subjects and knowledge domains. This implies that pre-service training courses focusing on the language dimension should be offered to all teachers, and not only to future language specialists, and that such courses should be made mandatory in the long run.

In Germany, for example, many politicians and administrators have finally acknowledged the fact that, as a rule, students differ in their general proficiency in German as the dominant language of schooling in mainstream classes. Children and adolescents who come from families with a limited educational background need targeted language support in all subjects since they are not able to perform according to expectations. As a logical answer to demographic trends (mobility) and socio-cultural developments (communication and entertainment through multimedia), some of the German federal states have recently reformed legislation for initial teacher training and have made the language dimension a mandatory element. North Rhine-Westphalia, for example, as the German partner of the European EUCIM-TE project, has developed a "National Adaptation of the European Core Curriculum for Inclusive Academic Language Teaching" with modules for pre- and in-service teacher training along the lines of the Bologna Rules.[91] It is now up to the universities and teacher-training institutions to make the reformed framework for teacher training work and to evaluate its effectiveness.

Well-funded private foundations in Germany have also taken up the language dimension in their support programmes. A leading example is the Mercator Foundation, which founded an Institute for Language Support and German as a Second Language in 2013. It is associated with the University of Cologne for the following missions:[92]

> ▶ to advise German federal states how to integrate the language dimension into (pre-service) teacher training for mainstream education and to offer incentives;

> ▶ to provide resources and professional support for research on effective language teaching methodologies;

> ▶ to offer programmes for the professional development of language teaching experts and researchers.

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90. See also Falch's presentation, available at www.coe.int/t/dg4/linguistic/Source/Source2013_Conf/Me1145_Falch.pdf, accessed 31 March 2016.
91. Available at www.eucim-te.eu/data/eso27/File/Material/NRW.%20Adaptation.pdf, accessed 19 March 2016.
92. www.mercator-institut-sprachfoerderung.de/.

Other Council of Europe member states are also ready to invest in the language dimension of teacher training, for example Luxembourg (Hansen-Pauli 2013)[93] and Austria (Österreichisches Sprachen-Kompetenzzentrum).[94]

11.3. LANGUAGE ADVISORS AND LITERACY COACHES ON A REGIONAL AND LOCAL LEVEL

In recent decades, the concept of "literacy" has developed into a very complex and challenging educational objective. There is broad consensus among experts and policy makers that "literacy" means more than simple technical skills like reading, writing and numeracy (see Chapter 8). For societies of the 21st century, the concept involves a "continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society" (UNESCO 2004).[95]

Literacy also comprises oral competence in formal social settings, critical thinking, deeper understanding of texts and the ability to develop and communicate ideas through coherently written or spoken texts. The competence of dealing successfully with non-verbal forms of representation (pictures, graphs, equations, videos, etc.) is also an integral part of literacy.

Sturtevant[96] points out that never in history has the need for educated and literate citizenry been so critical. Economic globalisation demands a workforce that is skilled in reading, writing, mathematics and other knowledge domains – and modern democratic societies require knowledgeable and involved citizens. On the other hand, far too many students are in urgent need of targeted support to increase their ability to comprehend complex material, expand their language repertoire, and develop strong study skills.

Sturtevant is confident that it is possible to teach all students how to cope with demanding texts and other modern (informational) media and enable them to actively participate in the classroom. Her optimism is based on the observation that instructional methods developed during the second half of the 20th century are widely advanced today. There is reliable expertise on how teachers in all content areas can develop the type of learning environments in which students can use reading, writing and structured discussions to solve problems, conduct research, experiment and engage in knowledge-building activities.

However, this expertise is not readily available in all schools. Even if teachers are ready for change and intend to establish a whole-school language-learning programme, they might need external professional help from well-trained critical friends and experts. Such language (learning) advisors or literacy coaches can offer help and support based on the individual school's needs and their students' language biographies, socio-cultural imprint and cognitive ability levels in relation to curricular requirements and contextual factors (for example availability of resources, professional background of staff, parents' attitudes and priorities).

Across Europe, the United States and other parts of the world, many programmes for literacy coaches (language advisors) have been installed and evaluated on a regional or local basis. Although they differ in many organisational, strategic and content features, they share a common underlying approach: the need to build up trust and engage teachers in a continuous learning process about effective ways to combine the teaching of literacy and content (Table 11.1).

Table 11.1: Effective literacy coaching[97]

Effective literacy coaching …	A literacy coach …
strengthens collaborative dialogue among teachers at all levels of knowledge and experience.	is careful to include all teachers regardless of knowledge and experience in professional learning.
facilitates development of a school vision about literacy that is site-based and yet links to the national/regional curriculum.	is a member of the school literacy committee. Helps a school determine qualities of excellent literacy instruction. Answers questions on and advises the school principal about literacy learning. Facilitates teacher study groups.

93. Hansen-Pauli M.-A., (2013), *Teacher education: Language issues in multilingual educational contexts: Sensitising Subject Student Teachers for Language Issues and Cultural Perspectives*, Council of Europe, Strasbourg, www.coe.int/lang-platform → Language(s) of schooling.

94. Sprachsensibler Fachunterricht, www.oesz.at/OESZNEU/main_00.php.

95. The Plurality of literacy and its Implications for Policies and Programmes – UNESCO Education Center Position Paper, Paris, p. 13, available at: http://unesdoc.unesco.org/images/0013/001362/136246e.pdf.

96. Sturtevant E. (2004), *The literacy coach: A key to improving teaching and learning in secondary schools*, Alliance for Excellent Education, Washington DC.

97. Shanklin N. (2006), *What Are the Characteristics of Effective Literacy Coaching?*, http://files.eric.ed.gov/fulltext/ED530356.pdf.

is characterised by evidence-based student and teacher learning.	helps teachers examine student work, suggests assessments, interprets data, assists in response to intervention efforts. Evaluates coaching efforts and other professional development offerings.
implies a form of ongoing, job-embedded professional learning.	works alongside teachers during the day. Implements sound practices for adult learning. Helps teachers keep professional learning going after coaching cycles end.
supports classroom observations that are cyclical and knowledge building over time.	understands gradual release of responsibility. Helps teachers develop means to reflect upon their own teaching and make improvements. Understands differences in the literacy strategies needed for particular content disciplines.
is supportive rather than evaluative.	helps teachers uncover areas where growth is needed. Assists teachers in being reflective about their own teaching.

11.4. BOTTOM-UP STRATEGIES FOR SCHOOL AND CLASSROOM DEVELOPMENT

Many schools around the world are experiencing the challenge of developing a whole-school language-learning policy tailored to their students' particular learning strengths and needs as well as to their specific language biographies and socio-cultural backgrounds. At the same time, such whole-school language-learning policies must account for the staff's professional background and the parents' dispositions and educational options. Whole-school language-learning policies need to spell out aims and objectives for the school to raise the academic performance of marginalised students in mainstream education through a new language-sensitive classroom culture. Many such bottom-up strategies have been successfully implemented and evaluated by change-ready schools. However, all these strategies have one feature in common: the demand for active support by the local, regional and/or national educational system and the provision of expertise and additional resources. A few examples follow.

School-based consensus on literacy aims and objectives for content teaching

In many instances, national curricula for content teaching do not explicitly specify either (minimum) language requirements or the aims and objectives of language learning, for example in the history, chemistry or mathematics classroom. In other instances, requirements, aims and objectives are indicated, but they are not well co-ordinated with respect to (a) terminology; (b) quality criteria (for example "how to write a well-organised and well-phrased summary or lab report"); (c) grade level; (d) achievement level (for example minimum, average, excellent); or (e) levels of linguistic specification (for example word – sentence/grammar – text/genre). Despite a lack of external support of this kind, many individual schools have started to set up a curriculum for language requirements and literacy objectives. The evaluation of such bottom-up initiatives shows that organising the different knowledge domains (by departments, or groups of teachers), often in a concerted effort, is a long-term and challenging process needing willingness on all sides to invest time into negotiating shared perspectives. Experience shows that providing schools with a general structured framework for the language dimension of content teaching greatly facilitates cross-curricular consensus (see Chapter 10). Combining a bottom-up strategy on the level of the individual school with a top-down strategy on the level of the educational support system (for example Norwegian Directorate for Education and Training 2012, also see Chapter 10) seems to be the most efficient way to co-ordinate teaching language and content across the curriculum.

Establishing a language-learning steering group

Departments (or groups of teachers of a specific subject) are the organisational backbone of most secondary schools. Major didactic and methodological issues are discussed on a departmental level, aiming at both stability and continuity on the one hand, and innovation and excellence on the other. Thus, students might be confronted with a broad spectrum of subject-related attitudes and pedagogical strategies concerning literacy and the academic language dimension. For the benefit of their students, successful schools have established a cross-curricular advisory body or steering group with the task of mediating (non-functional) differences in approaching the academic language dimension. Departments delegate one or two senior teachers into such an advisory body to communicate subject-specific concerns, but also to report different perspectives and interests of other content areas back to their own department. Eventually, co-ordination and even convergence is achieved as the basis for a whole-school language-learning and teaching policy.

Language-sensitive classroom development

Teachers' own patterns of classroom language use and how they react to their students' verbal performance are very deeply rooted routines that can, when used in the right way, foster and speed up students' academic language development. But there is evidence that certain classroom language routines may also have the opposite effect: for example using a speech style ("teach-speak", "teacherese") that seeks to facilitate understanding but fails to serve as a model to which students can adapt, or not waiting long enough for students to react to an invitation to contribute. Another unhelpful approach is the dominance of the "I (initiation) – R (reaction) – E (evaluation) cycle" and assigning the R (reaction) role exclusively to students whose responses with single words or body language are accepted or even welcomed. In addition, there may be little targeted language support (scaffolding) to support the students. It cannot be denied that inclusive mainstream academic language education needs a new language-sensitive classroom culture in all the subjects being taught at school. However, it is very difficult to achieve since it normally takes outside help for one to become aware of routines that might contribute to the fossilisation of the students' conversational or interactional patterns of language use.

A promising strategy to create more language awareness among school staff and establish a new ambitious classroom discourse culture is the criteria-based "critical friends" approach to classroom observation. Teachers invite each other on a reciprocal and confidential basis to check whether they are providing learning opportunities for students to further develop their cognitive-academic language competences and how they can improve. Here are some examples of quality criteria for self-reflection as well as classroom observation:

- ▶ at the beginning of a teaching unit, the aims of language learning are explained to students in a comprehensible manner;
- ▶ the teacher avoids oversimplifying the language and adopts a form of speaking that is a level slightly above students' average competence level;
- ▶ through his or her way of speaking (intonation, stress, body language), the teacher highlights important procedural and/or content aspects;
- ▶ the teacher facilitates comprehension of important subject-specific issues through repetition and paraphrasing;
- ▶ the teacher controls his or her own talking time so that there is more time for contributions on the part of the students;
- ▶ the teacher leaves enough (waiting) time for learners to construct coherent and meaningful statements;
- ▶ students are challenged by tasks that require higher-order thinking skills and coherent presentation of ideas, especially in a written mode.[98]

This reciprocal classroom observation scheme requires a preliminary process in which a set of criteria for observing the language dimensions is discussed and approved by a broad majority of the staff. Success also depends on the headmaster's support and the school authority's approval, as well as the availability of additional resources, namely teaching time set aside for observation and negotiation activities.

Reading programmes: within and beyond the classroom

In most cases, less successful students come from a family and socio-cultural context in which formal or literary language (also in the non-fictional and interactive oral modes) do not play a significant role. Young people growing up in such circumstances are not confronted with speech patterns of the type that are used in schools as a basis of formal teaching and learning. Children and adolescents from an educationally limited background also have limited access at home to books with challenging content and language. They are not used to reading a daily paper or quality periodicals. Thus, an effective whole-school language-learning policy has to extend its reach beyond the classroom into the homes of students at risk and has to motivate parents to encourage their children to discover the value and pleasure of reading. Education authorities should also support schools in co-operating with other institutions (for example libraries, universities, clubs, theatres) to provide adequate experiences and reading material for students, as well as professional guidance to choose books and realise opportunities for exchanging reading experiences.

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98. Based on Thürmann E. and Vollmer H. (2012), "Schulsprache und Sprachsensibler Fachunterricht: Eine Checkliste mit Erläuterungen", in Röhner C. and Hövelbrinks B. (eds.), _Fachbezogene Sprachförderung in Deutsch als Zweitsprache_, Juventa, Weinheim, pp. 212-33. See Appendix 3. A similar approach to criteria-based classroom observation with a focus on literacy can be found in www.https://www.bmbf.gv.at/.

This chapter has described a number of different approaches to developing pre-service and in-service professional development for teachers to ensure that the language dimension in education is taken seriously and informs their classroom practice. A central theme has been the importance of dialogue and negotiation so that teachers understand and have ownership of the policies they are seeking to implement. The imposition of a "quick-fix" top-down policy without relevant professional development (whatever form it takes) is unlikely to be successful.

Chapter 12

The quality of training related to the linguistic dimensions of subject-specific teaching

Teaching related to the linguistic dimensions of individual disciplines involves evaluative aspects, as is the case with all other types of education. These will be considered in this chapter from all relevant angles, reaching beyond a focus on the different ways of measuring learning outcomes.

12.1. THE OVERALL QUALITY OF TRAINING: OVERALL ASSESSMENT CRITERIA

The overall quality of the training depends on the resources actually employed to meet general educational objectives and the social responsibilities of the education system. As underlined in Recommendation CM/Rec(2012)13[99] on ensuring quality education and Recommendation CM/Rec(2014)5 on the importance of competences in the language(s) of schooling,[100] quality relates to the measures to be taken at all levels of educational structures to ensure:

▶ school success, which depends to a large extent on command of the language in which school subjects are taught. All educational actors must recognise the part that the acquisition of competence in the language of schooling plays from the outset of schooling in access to knowledge and cognitive development;

▶ equal opportunities and identical or fair access to learning opportunities. This may mean establishing special, specific and transitional arrangements for pupils experiencing difficulties or for certain groups of learners more likely than others to encounter difficulties on account of their social vulnerability, for instance pupils from the most disadvantaged groups in society and children of newly arrived migrants:

> Public authorities have the responsibility for ensuring quality education also for those who are unable to make successful use of mainstream education programmes for very diverse reasons, which range from lack of proficiency in the language(s) of instruction or substantial differences in previous educational curricula to severe mental or physical disability (CM/Rec(2012)13, para. 26);

▶ an appropriate response to the needs of learners, which must be carefully identified: their language difficulties may be mistaken for difficulties with understanding, learning or reproducing subject content; these difficulties may be regarded as being solely due to lack of command of the language concerned or of spelling. The previous chapters of this handbook are intended to help with identifying these needs;

▶ high-quality implementation: in practice, this must be ensured through the curricula (see Chapter 10) and training teachers in this dimension of their jobs and raising their awareness of it (see Chapter 11), either in initial or in-service training. It should be noted that very few initial teacher-training courses other than specific language teaching courses take account of the linguistic dimension. It is also necessary to have suitable equipment (for example for lab or field work), as well as good textbooks: these must be clear and properly suited to the expected forms of academic discourse; arrangements (involving publishers) must be made for assessing their quality by means of explicit, consensual criteria. Information technology resources and, more generally, financial resources must also be allocated in a targeted manner to these teaching activities.

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99. www.coe.int/CM ("Adopted texts").
100.   www.coe.int/CM ("Adopted texts").

Making an overall assessment of a form of education is a complex undertaking. The assessment may primarily be societal: does the system meet the objectives set for the education system as a whole, such as equal opportunities and, in the case of languages, the establishment of plurilingual education that generates convergence between language courses and builds on learners' repertoires? This cannot be easily measured on the basis of student performance, which is assessed in relation to more factual criteria, such as the knowledge and competences provided for in curricula. Assessing, in such a general manner, the effectiveness of a system in relation to particular performance levels is also complex because it is difficult to disentangle the subject knowledge and the linguistic resources required for acquiring and using it (or merely reproducing it). However, the quality requirements described above continue to apply in full, as they involve the rights and responsibilities of the public authorities, the education system and its actors (including learners) and citizens in general.

12.2. QUALITY OF THE CURRICULUM AND EVALUATION OF ITS IMPLEMENTATION

It is, however, possible to evaluate the position of education in academic language within the curriculum, especially at the macro level.

12.2.1. Quality of the curriculum: cross-cutting approach

The key quality expected of curricula is ensuring that proper account is taken of linguistic dimensions across subjects and across levels of education (on a longitudinal basis). This cross-cutting approach may be included in curricula in various ways (see Chapter 10). These may involve developing linguistic competence descriptors common to all subjects or to groups of subjects. Although we are aware of the difficulties in using descriptors, which always remain ambiguous,[101] they are nevertheless a useful way of getting teachers to include in their practice the teaching of the linguistic competences needed for subject knowledge on the basis of common points of view. Consideration may also be given to using certain descriptors from the CEFR, which is, however, designed for foreign languages, for a cross-cutting competence such as grammatical accuracy – an extract from the CEFR is presented in Table 12.1.

Table 12.1: Example of linguistic competency descriptors from the Common European Framework of Reference for Languages[102]

B2	Good grammatical control; occasional "slips" or non-systematic errors and minor flaws in sentence structure may still occur, but they are rare and can often be corrected in retrospect.
	Shows a relatively high degree of grammatical control. Does not make mistakes which lead to misunderstanding.
B1	Communicates with reasonable accuracy in familiar contexts; generally good control though with noticeable mother tongue influence. Errors occur, but it is clear what he/she is trying to express.
	Uses reasonably accurately a repertoire of frequently used "routines" and patterns associated with more predictable situations.

Another way of specifying the linguistic competences expected in the various subjects is to draw up lists of terms useful for realising cognitive-linguistic functions or a common scientific vocabulary (including, for instance: decomposition, decrease, deduct, semi-circle, designate and also besides, likewise, increasingly, as soon as, etc.).[103] It is necessary to check if such terms and expressions really are common across subjects, which would justify presenting them as a set of resources for each subject. From an educational point of view, however, we are aware of the risks of focusing too much on specific terms, even if they are shared.

12.2.2. Quality of the curriculum: clear indication of competences

Making explicit the specific linguistic competences that learners must be able to master is another important criterion for the quality of curricula. The points made above already meet this requirement. However, curricula must also clearly indicate the areas of convergence across school subjects from this point of view and the

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101. Fleming M. (2009), op. cit.

102. *Source*: CEFR, section 5.2.1.2, www.coe.int/lang-CEFR.

103. Based on Phal A. (1971), *Vocabulaire général d'orientation scientifique,* Didier, Paris.

importance of taking explicit account of the linguistic dimensions of the various subjects. In particular, it is vital for the genres expected in summative assessment tests, official examinations or periodic assessments of learners' competence in a given subject to be described and illustrated with examples at the appropriate place in curricula, in accordance with national educational cultures. If the descriptions are vague, the texts produced by pupils are assessed on the basis of criteria that are unknown to them or lacking in transparency, thus opening the way for teachers to use language judgment criteria that may be intuitive. In this case, it is important to make teachers aware of their subconscious assessment criteria, using descriptors like those in Table 12.1 in curricula. This could make the relevant assessments more transparent and restrict recourse to excessively strict or lenient socio-linguistic judgments in relation to the expected academic language.

12.2.3. Assessment of the curriculum

Assessing curricula actually means assessing impact on learning outcomes (are the objectives realistic?), teaching practices (what changes have resulted?), suitability for learners' needs and expectations (relevance for shaping the individual and preparing for life in society) or those of society as a whole (impact on employability or social cohesion).

The techniques available here are well known: indicators have to be defined to measure pupils' performance and measure changes in teaching practices and the relevance of curricula in relation to the needs of learners and society, as well as to describe pupils' attitudes (and those of teachers) in relation to the objectives, teaching arrangements and the tasks and activities provided for in curricula. These indicators (which are actually assessment criteria) can be used to measure pupils' performance either by observing them directly in the classroom (though general application is difficult) or by means of ad hoc tests involving representative samples of learners (in which case it must be ensured that they take account of pupils' habits). What is assessed is, therefore, necessarily an artificial construct compared to the complex situations in schools, as there is an inevitable element of arbitrariness in the choice of indicators/criteria and, above all, their translation into figures – for instance, what percentage of the total points should be assigned to individual criteria? Assessment methodologies of this kind, such as those employed in the OECD's PISA surveys and the first survey on language competences (commissioned by the European Commission), reflect the debates around the results. Moreover, the most important results are not confined to measurement of the performance levels concerned but are relevant, above all, on account of the explanations given (themselves the subject of discussion) concerning their diversity, which are based on criteria such as gender, geographical residence, socio-economic status, families' cultural capital, types of access to the media, and so on.

These general considerations are all the more relevant for the particular subject to be assessed here, namely the linguistic competences needed for acquiring subject-specific knowledge and forming scientific minds. This is not easy to describe using clear, cross-cutting indicators, given the interweaving of cognitive and linguistic aspects. Moreover, no international survey of any size seems to have considered this very crucial dimension of curricula. Nevertheless, providing learners with the linguistic competences needed for access to knowledge by one means or another, at least indirectly through assessment of subject-specific outcomes, remains a priority for education systems.

These technical difficulties in terms of overall assessment of the efficiency of curricula should not, however, result in our disregarding what can be learned from more occasional analyses conducted in this area. One example is the research by Cummins.[104] While such studies are not on the face of it really relevant outside the specific context that they describe, they are no less significant in qualitative terms. Although they do not actually assess curricula directly, they illustrate the processes that lead to types of pupil failure and that must be ascribed to inadequate command of the linguistic resources needed for acquiring subject-specific knowledge. They, therefore, offer heuristic assumptions for improving the quality of educational curricula.

In any case, experience shows that corresponding reforms depend on policy decisions taken at the highest level, not just formal analyses indicating the needs of the education system. This is all the truer since such curriculum reforms very probably require special funding (for teacher training, for instance). It is therefore vital for the community of researchers, actors in the education system, parents' and students' movements and associations and any other non-governmental organisations to make their voices heard so that these issues receive the attention they deserve in the public arena and influence the dominant social representations. While reference has already been made to curricula being "social constructs", everything suggests that assessments of curricula should also be social.

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104. http://scholar.google.fr/scholar?q=jim+cummins&hl=en&as_sdt=0.

12.3.   ASSESSMENT OF LEARNING OUTCOMES

In the school system, the assessment of learning outcomes usually involves "measurement" of what has been learned in relation to the objectives set by the curriculum and then by teachers on the basis of the latter. There are many types of assessment; a useful list is provided in the CEFR (9.3, Types of assessment).

12.3.1. Formative assessments, summative assessments

The most relevant distinction for our purpose is that between formative assessments and summative assessments. The former are intended to support learning in the most individual manner possible, through indications given by teachers to enable individual learners to organise or reorganise their work more effectively. In this regular, ongoing dialogue, teachers and learners seek to identify weaknesses, points that learners do not understand properly, and knowledge that they need to acquire most urgently or have already fully acquired. This demands considerate, ongoing attention on the part of teachers, as well as the necessary encouragements and warnings, while learners' awareness of their own difficulties and what needs to be improved must also play a part. This support for learning involves oral interaction during the various tasks or on the basis of the results of the latter. It is more qualitative than quantitative.

According to the conventional definitions, summative assessment has a regulatory social function of a legal nature: it essentially serves a certifying purpose, in that it entails awarding official marks to measure the learning outcomes of a term, to grade pupils or to determine whether they may move on to a higher level or whether particular courses should be validated. In some contexts, this selective function is vital. The assessments are organised externally, take place periodically, and are held at the start or the end of learning processes. They take the form of examinations or tests, which are often marked anonymously. In middle and upper school, the certificatory assessments are conducted by teachers using class exams of a set duration, which they mark as objectively as possible. Certificatory assessment also takes place by means of national exams involving specialised boards; the papers are marked by authorised markers using predetermined performance descriptors and common marking scales. The assessments usually lead to the issuing of official diplomas or certificates, which prove the holders' personal qualifications and are essential for the labour market.

It is against this general background that the question of assessing the linguistic competences needed for acquiring subject-specific knowledge and competences arises.

12.3.2. Formative assessment of academic expression

Formative assessment is relational and, above all, requires teachers to pay attention to the linguistic dimensions of their subjects as used by pupils. This means that they must be particularly and constantly sensitive to these aspects of their pupils' ongoing learning processes, both in general terms of correctness and in relation to pupils' ability to formulate, reformulate, describe and define (cognitive-linguistic functions) and to the competences that enable them properly to understand or produce the genres expected.

A self-training grid for teachers for this purpose could take the form found in Figures 12.1 and 12.2:

Figure 12.1: First example of self-training grid for teachers

I am aware of the fact that, within the usual forms of subject-based achievement, assessment and evaluation of the linguistic aspects implicitly play a large role;

I also use task formats that explicitly require the production of connected and detailed utterances;

after the assessment of achievement, I deliberately give feedback to the students about linguistic areas (or features) that they still have to work on and improve.

Figure 12.2: Second example of self-training grid for teachers[105]

6.1. I often give qualitative feedback to students about linguistic aspects of their subject learning, e.g. in their folders for homework (with notes and task sheets), in their written products and also in oral consultations.

6.2. I see to it that subject-specific achievements on the part of the students are also produced in written form with an acceptable degree of appropriateness in linguistic terms.

6.3. I present my evaluation of the students' achievement and their linguistic progress at least once in half a year by describing it in words that are transparent and comprehensible for the students, their parents and others alike.

6.4. Although a clear distinction is difficult, linguistic aspects – as much and as long as they are important for the content – are evaluated in an integrated way in my assessment of the students' work and achievements.

6.5. In my school and for my subject, we have agreed to write a comparative test per class/between the different classes in order to make sure that the language progress develops according to age and subject-specific demands and that no systematic or irreparable deficits will show up in the demonstrated subject performances.

6.6. At our school, we have defined the linguistic competences which our students should acquire and master so that they can successfully follow the curriculum and the different subjects at the respective level(s) of education.

A guided self-training approach of this kind could easily be developed for learners along similar lines and arranged in a similar way to this grid or others like the European Language Portfolio.

12.3.3. Summative assessment of academic expression

In the case of certificatory assessments, it should be noted first of all – even though this should be regarded as self-evident in educational terms – that not only the content but also the nature of the tests designed to measure outcomes must be in line with the curricula. As already indicated (see Chapter 4), this means that the genres used for checking must be described particularly transparently and explicitly, probably on a subject-by-subject basis, in the relevant curricula. This is usually the case when it comes to assessing outcomes in language learning as a subject in that most national educational cultures have ultimately developed genres of school texts traditionally used for that purpose. However, it is much rarer for other subjects, and the linguistic forms expected for the activities assessed may either not be indicated or not be indicated clearly enough. More detailed indications of the kind presented in the previous chapters should clarify the competences expected and establish shared criteria.

Otherwise, whether they are conducted by class teachers or organised at national/regional level, summative assessments share the same problem of the connection between assessment of linguistic knowledge/skills and assessment of subject-specific knowledge. As with the teaching of school subjects in foreign languages in bilingual classes or, more broadly, content and language-integrated learning,[106] an essentially additive approach is taken: this involves assessing linguistic aspects and subject-specific knowledge separately according to procedures and criteria specific to the assessment of languages as a subject and, on the other hand, a particular focus on command of the terminology of the relevant subject. Approaches of this kind go against the close interlocking of the expression of cognitive-linguistic functions and its conformity with the forms of academic expression sought in the curricula. Attempts may be made to assess in detail (but not too analytically), for instance, the ability to give presentations or interact (with examiners), taking account of criteria concerning accuracy and suitability for the communication context, while at the same time assessing the quality of knowledge and ability to present arguments.

An excessive emphasis on "numerical objectivity" (as studied in statistical analyses of test results), wherein each sub-component is identified and assigned a certain weight in the quantified overall score (or by level), can also be an obstacle. This is a widespread social concern, although it varies depending on educational cultures. The

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105. *Source*: Thürmann E. and Vollmer H. (2013), *Language-sensitive subject teaching: a checklist*. See Appendix 3.
106. Huver E. and Springer C. (2011), *L'évaluation en langues*, Didier, Paris, p. 225 et seq.

prevalence of numerical quantification of performance and the type of weightings established between the sub-components tend to produce additive assessments that separate knowledge and language. The concern for accuracy can lead to disconnected assessments that miss the point, namely the two-sided nature of the knowledge-language complex. It is therefore necessary to move towards composite, tiered descriptors with which it is possible to distinguish between the types of knowledge to be assessed, but which are not too fragmented. More detailed specifications will enable such bipolar, integrated descriptors to be produced. However, the latter can probably only be developed, tested, shared and used reliably within specific communities of practice. Any response here based on a general framework and universal descriptors is therefore likely to be futile.

Conclusion

The central argument in this handbook, that the development of students' language proficiency in schools should be the responsibility of teachers of all subjects, has very specific practical implications for schools, curriculum development and teacher education. These have been described and discussed in detail in previous chapters. However, it has also been demonstrated that these recommendations for practice do not exist in a vacuum, but draw on deep-seated values and principles. The Council of Europe's mission is to protect human rights, democracy and the rule of law as essential foundations for any society committed to social inclusion, social cohesion, equity and respect for diversity. In order to see clearly the link between such values and the practicalities of language teaching in schools, this handbook argues that a reconsideration is needed of how language education is conceived.

It is no longer appropriate for language education to be conceived narrowly and confined to one or two areas of the curriculum. Instead it needs to be seen as central to every school's mission and culture, and it needs to extend to all subjects in the curriculum. Only then will the inequalities caused by taking language for granted be rectified. As has been clearly demonstrated, many learners will not acquire the necessary competence in the language of schooling without appropriate teaching that integrates language and subject-content learning.

The development of competence in language has to be viewed not just as the acquisition of a narrow set of skills, but as a process that equips all learners for participation in modern societies with all that entails in terms of expressing a point of view, understanding nuances of meaning, engaging in purposeful dialogue, etc. Subjects should no longer be seen as simply a body of information that has to be transferred to learners. Instead, there needs to be a more deep-seated understanding of the contribution that the subject makes to broader education goals and values; all subjects have a contribution to make to developing the learner as an active, committed democratic citizen in a diverse society and to the process of plurilingual and intercultural education. Language education should always embrace diversity and plurilingualism, respecting, but also seeking to extend, the language repertoires that pupils bring to schools. The development of values and their associated competences such as respect for human rights, openness to others, a sense of civic duty, and analytical and critical thinking skills are largely developed and exhibited in and through language.

There have been previous attempts, in various contexts, to implement a policy of "language across the curriculum" on the basis that all teachers have a responsibility for developing language in their subject context. However, it is widely recognised that initiatives of this kind have, in the past, been largely unsuccessful. The intention in writing this handbook has been to go further and identify the factors that will ensure success, such as the need for policy review and support, curriculum development and teacher education. It has also been recognised that it is not enough that teachers be told that they must "take responsibility for language education", in some vague formulation. Rather, they need concepts and tools to understand what this means in concrete, practical terms. Technical terms have been deliberately kept to a minimum in this publication, but those that have been used are important for helping policy makers, curriculum developers, teacher educators and teachers to ensure that the general goals are realised in practice.

This handbook, then, has a strong practical orientation but it is in no way intended to be the last word on the subject. It is hoped that it will stimulate discussion, further research and the development of new tools and resources to supplement the growing body of stimulating material that already exists (Appendix 2). A self-reflective checklist for teachers has been included (Appendix 3) as an example of the kind of practical tool that can help teachers think about the specific implications of the general principles. The checklist is not intended to be prescriptive, nor is it meant to be used for external evaluation, but it is rather intended as an aid to reflection, self-evaluation and further discussion with colleagues in a spirit of dialogue, understanding and self-improvement.

A recurring message of the handbook is that the implications for practice should not translate into prescriptive rules or mechanistic approaches to teaching. The term "language-sensitive" teaching has been used frequently. The word "sensitive" is important here and is aimed at capturing not just the importance of language in the subject classroom, but also the importance of knowing how to translate that awareness into effective practice. A specific example of a practical activity may be appropriate in one context but not in another. Much depends on the context, the relationship between students and teacher, the prior background knowledge and level of achievement of the students, and the attitude of the students to language. Being language-sensitive means being able to judge how language impinges on learning, and knowing when intervention specifically directed at language is appropriate and what form it should take. This means being able to take the relevance of the particular context into account and not adopting mechanistic approaches that run the risk of distorting the subject learning. An effective approach to language education in schools is in part about creating a culture in schools that does not take language for granted.

The Council of Europe Recommendation CM/Rec(2014)5 of the Committee of Ministers to member States on the importance of competences in the language(s) of schooling for equity and quality in education and for educational success is referred to in the introduction and throughout this publication. It is fitting, therefore, to end on the same note. This handbook can be seen, in part, as an attempt to illustrate some of the practical implications of that recommendation. It is hoped that readers will be inspired to respond to its challenges and suggestions through critical dialogue and concrete actions.

Appendices

Appendix 1

Recommendation CM/Rec(2014)5 of the Committee of Ministers to member States on the importance of competences in the language(s) of schooling for equity and quality in education and for educational success

(Adopted by the Committee of Ministers on 2 April 2014 at the 1196th meeting of the Ministers' Deputies)

The Committee of Ministers, by virtue of Article 15.*b* of the Statute of the Council of Europe,

Considering that the aim of the Council of Europe is to achieve greater union among its members and that this aim may be pursued in particular by the adoption of common action in the fields of education and culture;

Recalling that the essential mission of the Council of Europe is the promotion of human rights, democracy and the rule of law;

Bearing in mind:

- ▶ the Universal Declaration of Human Rights of 1948, particularly Article 26 thereof, which sets out the right of every individual to education, which must, among other things, be directed to the full development of the human personality;
- ▶ the right to education as defined in Article 2 of the Additional Protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms (Protocol No. 1, ETS No. 9) and in the United Nations Convention on the Rights of the Child (particularly Article 29 thereof);
- ▶ Recommendation CM/Rec(2012)13 of the Committee of Ministers to member States on ensuring quality education, which refers to the Convention for the Protection of Human Rights and Fundamental Freedoms (ETS No. 5, 1950), in particular its Protocol No. 1 (ETS No. 9, 1952);
- ▶ the European Cultural Convention (ETS No. 18);
- ▶ the European Charter for Regional or Minority Languages (ETS No. 148);
- ▶ the Framework Convention for the Protection of National Minorities (ETS No. 157);
- ▶ the European Social Charter (revised) (ETS No. 163);
- ▶ Recommendation CM/Rec(2008)4 of the Committee of Ministers to member States on strengthening the integration of children of migrants or with an immigrant background;
- ▶ Parliamentary Assembly Recommendation 1093 (1989) on the "Education of migrants' children";
- ▶ Parliamentary Assembly Recommendation 1740 (2006) on "The place of mother tongue in school education";
- ▶ Congress of Local and Regional Authorities of the Council of Europe Recommendation 222 (2007) on "Language education in regional or minority languages", and Resolution 129 (1982) of its Standing Conference on the education of migrant workers' children;

- ▶ General Policy Recommendation No. 10 of the European Commission against Racism and Intolerance on combating racism and racial discrimination in and through school education;
- ▶ the Council of Europe White Paper on intercultural dialogue "Living together as equals in dignity" (2008);
- ▶ the results of such international studies as the Programme for International Student Assessment (PISA) of the Organisation for Economic Co-operation and Development (OECD) and the Progress in International Reading Literacy Study (PIRLS) of the International Association for the Evaluation of Educational Achievement (IEA) showing the importance of competences in languages of schooling for educational success and social inclusion;
- ▶ the conclusions of the 2010 Council of Europe Intergovernmental Language Policy Forum on "The right of learners to quality and equity in education – The role of linguistic and intercultural competences";
- ▶ the programmes of the Steering Committee for Educational Policy and Practice (CDPPE) of the Council of Europe on the language of schooling and its reference instruments on language education;

Being aware:

- ▶ that the right to education can only be fully exercised if the learners master the specific linguistic rules that are applied in schools and are necessary for access to knowledge;
- ▶ that such linguistic competences are one of the factors in educational success and that they are a prerequisite for undertaking further qualifying academic or vocational education and training, and therefore important for participation in society and sustainable inclusion;
- ▶ that some learners may be disadvantaged vis-à-vis mastery of these linguistic competences because of social and linguistic inequalities;

Recommends that the governments of member States:

1. implement, with respect for national, regional and/or local circumstances and in conformity with constitutional provisions, the measures set out in the appendix to the present recommendation in order to provide opportunities for all to acquire competences in the language(s) of schooling which are necessary for their success in the various school subjects;

2. draw, when implementing these measures, on the experience of the member States which is made generally available by the Council of Europe and other international organisations, while taking into account the specificities of their education system;

3. bring this recommendation and the reference documents on which it is based to the attention of the public and private bodies in their countries through the appropriate national channels.

Asks the Secretary General of the Council of Europe to bring this recommendation to the attention of those States Parties to the European Cultural Convention which are not members of the Council of Europe.

APPENDIX TO RECOMMENDATION CM/REC(2014)5

<u>Scope and definitions</u>

1. The present recommendation is aimed at education authorities in member States, and in particular those responsible for educational content and programmes, those responsible for initial and further training, and school principals and their teaching staff.

2. The recommendation concerns the central importance of competences in language(s) of schooling for preventing underachievement and therefore their role in ensuring equity and quality in education.

3. "Language of schooling" denotes the language used for teaching the various school subjects and for the functioning of schools. This language is usually the official language(s) of the State or the region, for example Polish in Poland or Italian in Italy, but may also concern officially recognised regional or minority languages, foreign or migrant languages. Depending on the national or regional context, several languages of schooling are used.

4. Every school subject (history, art, mathematics, etc., including the language of schooling as a specific subject) uses its own specific forms of oral and written expression. Students must master these norms in order to appropriate the contents taught and successfully participate in school activities.

5. Most students arrive at school with the competences in the language of schooling required for ordinary communication. But for the most vulnerable learners, those who use a different language for

day-to-day communication and, especially, learners from disadvantaged socio-economic backgrounds, the acquisition of competences in the language of schooling is a major challenge. It is thanks to high-quality teaching of all the school subjects, taking their language dimensions into account, that students gradually acquire the competences in the more "academic" language used in teaching.

Principles

6. Education authorities in member States are encouraged, when reviewing their educational policies, to draw on the following principles:

   a. linguistic competences and equal opportunities

   Recommendation CM/Rec(2012)13 of the Committee of Ministers to member States on ensuring quality education highlights the responsibility of education systems in ensuring equal opportunities for learners. This includes the responsibility to guarantee the command of the languages used and taught, going beyond competences for ordinary communication.

   b. access to knowledge and cognitive development

   In this context, particular attention should be paid, right from the outset of schooling, to the acquisition of the language of schooling, which, as both a specific school subject and a medium of instruction in the other subjects, plays a crucial role in providing access to knowledge and cognitive development.

   c. action to support groups of learners with educational difficulties

   Teachers and other educational actors should take particular care that the knowledge and the spontaneous forms of expression which learners use in relation to subject contents are gradually enriched. This applies in particular to certain groups of pupils, who are often those with migrant backgrounds or disadvantaged socio-economic status, who may experience learning difficulties because of an inadequate command of the language of schooling. The learners' language competences with regard to various subjects should receive particular attention when learning is to be assessed.

   d. respect for and enhancement of the learners' individual and collective identities

   If the implementation of these principles is to be effective, attention must also be paid to the variety of the languages used by the students, including the languages of minority or migrant groups and the different language registers, acknowledging that all languages are conducive to the success of school learning processes as much as to individual fulfilment and preparation for active life and the exercise of citizenship.

Measures to be implemented

7. It is incumbent on the public authorities to guarantee appropriate language learning, as one of their responsibilities in guaranteeing the quality of education under the national education system, covering both public and private education.

8. They should therefore give clear political impetus in order to encourage the actors concerned to combine their efforts to develop awareness in the education system of the importance of the requisite competences in the language(s) of schooling, which are not necessarily acquired outside school.

9. The effectiveness of action vis-à-vis the definition of educational contents, teaching practices and teacher training, for all school levels, presupposes coherency in the initiatives taken.

10. It would thus be desirable that:

    a. those responsible for educational contents and programmes promote effective consideration of the linguistic dimensions in the various school subjects by:

    i. making explicit the specific linguistic norms and competences which learners must be able to master in individual school subjects;

    ii making explicit in the programmes and curricula the learning modalities that should allow all learners, and in particular the most vulnerable among them, to be exposed to diversified language-learning situations in order to develop their cognitive and linguistic capacities;

    iii. highlighting, in the programmes, convergences in the linguistic dimensions of the various subjects, in such a way as to reinforce the effectiveness of the educational project;

iv. recalling, in the programmes for the language of schooling as a specific school subject, the special place which this language holds because of its cross-cutting effect on all the learning processes conducted in that language;

v. encouraging authors of educational materials to ensure that such materials explicitly take account of the linguistic dimensions of the different subjects;

vi. continuing and extending research in this field;

b. those responsible for initial and further training and school administrative staff foster genuine consideration of the importance of the linguistic dimensions in teaching and assessment practices through:

i. training courses to prepare teachers of all subjects to provide, alongside the subject-based content, teaching of the linguistic dimensions in constructing knowledge and to seek maximum coherence among their various teaching processes;

ii. raising awareness among local educational staff of their role in devising and implementing a coherent whole-school policy for the language of schooling, including taking into account the various languages present in the school as a resource to be exploited;

c. teachers and other educational actors in schools put into place processes for diagnosing and assessing linguistic competences and appropriate forms of support, in order to facilitate mastery of the language of schooling by:

i. verifying at regular intervals, and in particular between different stages of education, learners' ability to master those aspects of the language of schooling required at different stages of education, so as to adapt the course progression accordingly and provide appropriate forms of support taking account of learners' specific needs and aptitudes;

ii. if possible, making full use of the linguistic resources which learners possess for knowledge building;

iii. anticipating, for each subject, the kinds of competences in the language of schooling that will be required in assessments with a view to preparing pupils for them;

iv. organising a diversity of approaches to assessment, in particular formative assessment and self-assessment, in order to acknowledge achievements and enhance the self-esteem of each learner;

d. the Council of Europe ensure co-operation at the European level by:

i. organising, within the CDPPE, exchange forums for education authorities in the member States;

ii. pooling the results of successful experiments via the Council of Europe website, particularly the Language Policy Unit's Platform of resources and references for plurilingual and intercultural education;

iii. giving assistance to member States by the Language Policy Unit in developing school curricula with a view to clarifying the linguistic competences required for teaching and learning all school subjects;

iv. providing training by the European Centre for Modern Languages (ECML) for teacher trainers and school administrative staff on the linguistic dimension of all teaching and learning processes.

EXPLANATORY MEMORANDUM

<u>Scope and definitions (paragraphs 1-5)</u>

1. The approach advocated in this text concerns all the actors at the different levels of the education system, whether they be responsible for defining educational contents or for initial and further teacher training, or involved in teaching and implementing school policies. Even though the recommended measures apply specifically to each school subject taught, the effectiveness of the actions undertaken largely depends on their consistency with the principles listed in this Recommendation, with the initiatives taken at the other decision-making levels and with the orientations adopted for the different subjects simultaneously contributing to the education of students.

2. This recommendation concerns the mastery of the language of schooling in the various subjects taught and its importance for the learners' success. Many factors have well-documented roles to play in a learner's educational success or failure (the family's socio-economic situation, help available

to learners from their parents, educational activities, level of teacher training, early support, etc). However, it is also very clear that a command of a wide range of linguistic forms is an asset for learners in achieving personal and professional success and for their ability to seize learning opportunities throughout their lives. Such mastery partly determines educational success, as confirmed by the OECD's PISA study and the IEA PIRLS programme. It is one of the ways to achieve the goal set by the European Commission and by a wide range of national authorities of reducing the number of learners leaving the education system without qualifications. The measures to promote an adequate command of competences in the language of schooling on the part of all students are part of the action against educational failure, thus primarily contributing to the search for equity and quality in education.

3. Throughout the text, the specific linguistic forms used to teach school subjects are referred to as "the language of schooling", although we should bear in mind that, depending on the context, several different languages may play this role, simultaneously or successively. The use of the term "language of schooling" stresses the specificity of the more "academic" linguistic forms used to achieve educational success, which must not be confused with the uses of the language in the commonest communication situations.

4. All the investigations carried out under the Council of Europe programmes concerning languages of schooling show that schools require students to know and use linguistic forms specific to the different subjects throughout their school careers. The specific linguistic forms present in the teaching of the different subjects are both linked to the uses of the language in each scientific community and heavily influenced by the constraints of school work. Subject-based work in the school context requires learners to understand and express concepts which they must acquire and develop by using a language in a way which differs from its most common usage in terms of degree of abstraction and a mode of use specifically devoted to the acquisition of subject-based knowledge. The learners' realisation of the specificity of the linguistic requirements in the different subjects and their capacity for distinguishing among the various subject-based discourses and identifying the possible articulations and convergences among the latter are key to acceding to knowledge. Clearly, the importance in this Recommendation of the role of the language of schooling cutting across all the subjects taught does not underestimate the specific importance of the teaching of this language as a school subject.

5. The importance of the linguistic dimensions for success in each subject is particularly reflected in the difficulties encountered by the more vulnerable groups in schools, including children from an immigrant background and from deprived socio-cultural backgrounds, and children who use specific linguistic varieties in their immediate environment. Faced with the linguistic requirements peculiar to the different subject areas, such learners share the fact of not benefiting, in their family or immediate environment, from regular exposure to discourse presenting the characteristics of the "academic" language used in teaching. Schools' response to these needs relates to the requirement of equity in education. However, this response cannot be specifically tailored to the linguistic situation of children from an immigrant background or from deprived socio-cultural backgrounds. Their relative rate of educational failure highlights the obstacles facing very many learners, far beyond these specific students.

Principles (paragraphs 6.*a-d*)

6.*a*. The present recommendation is in line with the reflections conducted by the Council of Europe on the quest for quality and equity in education for all, and on consideration for the aptitudes and needs of students from linguistic minorities or from an immigrant background, as highlighted in the conventions and recommendations listed in the preamble to the text. This confers very specific importance on Recommendation CM/Rec(2012)13 of the Committee of Ministers to member States on ensuring quality education. The difficult situation facing many students belonging to vulnerable groups stemming from inadequate command of the linguistic requirements in the different subjects is a strong incentive for improving the quality of the whole training and education system, of which all students are potential beneficiaries. The search for equity can only enhance the quality of the training and education to which every student can aspire.

6.*b*. Awareness of the challenge of mastering competences in the language of schooling for educational success leads us, right from the outset of schooling, to pay special attention to these linguistic

dimensions. Their acquisition obviously concerns the teaching processes devoted specifically to developing linguistic skills, but, beyond this teaching of the language of schooling as a separate school subject, the recommended approach is to incorporate the linguistic dimensions into the teaching of the different subjects.

6.*c.* Training for the various actors concerned should enable them to design approaches specifically based on the students' know-how and the linguistic resources available to them, so as progressively to enrich their competences, facilitate access to knowledge and allow all students to experience success, thus boosting their self-confidence. From this perspective, the linguistic dimensions of assessments in the different subjects cannot be disregarded, and must be the subject of very close scrutiny.

6.*d.* The overall conception of language learning processes developed by the Council of Europe under the heading of "plurilingual and intercultural education" proves particularly useful here. It advises, *inter alia,* against artificially isolating the students' wide variety of linguistic experiences and advocates mobilising their different cultural and linguistic resources to cope with the linguistic challenges which they encounter for building up knowledge in the different school subjects as well as for their personal fulfilment and preparation for entry into working life and the exercise of democratic citizenship.

Measures to be implemented (paragraphs 7-10.*a-d*)

7. The importance of policy guidance for the measures to ensure the requisite mastery of linguistic competences for the educational success of all students derives from the expectations and conclusions of the documents and recommendations adopted by the various Council of Europe bodies and other international organisations to promote quality and equity in education in the different education systems. The link between action against school failure and measures to promote mastery of competences in the language of schooling means that such initiatives are vital for progress in improving the quality of education.

8. A genuine political impetus would, firstly, help alert all the actors, in their separate areas of responsibility, to the importance of realising the precise nature of the linguistic requirements, a command of which partly determines students' success, which too often remain implicit and whose importance is generally underestimated by the actors at the different levels of the education system. This realisation is manifestly vital for seeking the means of ensuring acquisition of the necessary competences by the learners.

9. The effectiveness of initiatives taken to improve mastery of competences in the language of schooling presupposes that the measures adopted and implemented must not be dealt with in a disorganised or isolated manner. It is important that, beyond the realisation of the importance of the linguistic dimensions in the teaching processes, maximum coherency is sought among all the actions initiated. Such coherency must be conceived of in the succession of learning processes and their complementarity at every stage in the school career.

10.*a.* The first type of measures recommended addresses curriculum developers and aims to foster the real consideration in school programmes of the linguistic dimension of the different subjects.

  i. Such consideration requires each actor to be fully aware of these linguistic requirements. The requisite command of the language of schooling is not confined to the commonest communicational exchanges, or even to knowledge of the language system or familiarity with the relevant works of literature. Difficulties can be caused by the discrepancy between the commonest, the most "ordinary", modes of use of the language and the modalities of expression used for building up knowledge. These linguistic requirements are present during oral exchanges between teachers and students, in the various school documents, in the educational materials and in the assessment of knowledge and competences. Student success or failure therefore partly depends on these requirements.

  The genuine importance of these linguistic dimensions in every field of knowledge is frequently ignored or left implicit. Effective consideration by the actors in the education system of the linguistic dimension of the teaching and learning processes presupposes clarifying, in the teaching programmes, the specific linguistic resources needed for success in the subject in question.

  Such awareness primarily involves analysing the existing programmes. Each subject is characterised, *inter alia*, by specific modalities of representation and expression vis-à-vis the subject matter for teaching, in which modalities the linguistic dimensions play a non-exclusive role, which is

differentiated according to the subject-based activities but which is important. Accordingly, the competences to be developed in the language of schooling must include mastery of the discursive genres associated with the different school subjects.

ii. Learner appropriation of the linguistic forms used in the different subject areas is also encouraged by the diversity of learning opportunities proposed to students throughout their education.

Fostering a command of the wide range of discursive genres (eg an experiment report, a report of results, an explanatory statement or a discussion on result validity) linked to the different subjects also involves a desire to provide each student with broad experience of diverse situations of exposure to the language, of learning and of using linguistic forms. Such diversification is geared to providing as wide a variety of experiences as possible for all learners and integrating all these situations in the individual pathway to be designed for each learner. Educational pathways can be designed in such a way as to ensure progressivity in both the subject contents and the complexity of expression expected of learners.

Beyond the specific linguistic aspects, the analysis should try to identify the communication situations encountered by learners during the teaching processes, the discursive genres to which they are exposed and which they must learn to master, as well as the language-learning modalities of which they have experience. Such an inventory helps ascertain that each learner is provided with an optimum range of learning opportunities best suited to facilitating subject-based acquisitions.

iii. Even if the analysis recommended above must necessarily be based on the specific curricula for each school subject and particular scientific practices, it can also be carried out with the intention of bringing out the convergences between the said curricula and practices and highlight the possible synergies geared to increasing the effectiveness of educational action. The teachers concerned should identify cross-cutting components for all the subjects, as regards knowledge but also the communication processes in which the students are involved (types of oral interaction, discursive genres, communication strategies, etc.).

The educational exploitation of these convergences enables learners to realise the cross-cutting dimension of certain linguistic skills and the possibility of transferring competences.

iv. Teaching the language of schooling as a specific school subject covers different subject matters for teaching and provides a specific contribution to the formation of learners' identities, particularly by enabling them to appropriate contents and values pertaining to the national/regional culture, while also developing their critical faculties and aesthetic sensibilities. This type of teaching also develops special linguistic forms bound up with the same need for analysis and approaches comparable to those present in other subjects. The teaching of the language of schooling as a specific school subject also provides an essential basis for raising awareness of the different written and oral discursive genres, which learners must appropriate for all the school subjects. Consideration, in this framework, of the linguistic expectations of the different subject fields and the requisite progressions in this field constitutes a vital contribution by the teaching of the language of schooling as a school subject to the development of the cross-cutting competences which learners must acquire.

v. The identification of certain linguistic specificities present in the teaching and assessment practices for each school subject when analysing subject curricula and practices should lead the authors of educational materials to draw the requisite conclusions, which include reflecting on the use of linguistic forms in tandem with the contents to be taught and the means of helping teachers and students to take up the challenge which they constitute for educational success. These linguistic characteristics obviously cannot be covered by a mere specialised glossary, but primarily concern the specific discourses of the relevant subject-based community and those which facilitate educational treatment of the teaching contents, with a degree of elaboration which naturally depends on the level in the school programme.

vi. Such awareness on the part of all the educational actors should be fostered by conducting more studies to highlight the linguistic dimension present in the teaching of each subject. The education systems have a wealth of findings and ideas at their disposal at the local and European levels to help implement the actions listed in the present Recommendation. This does not alter the fact that many aspects of the issue addressed here require more specific research. Encouraging such research, if possible in liaison with those directly involved in educational action, would help provide teachers and the educational officials with the requisite information for the action, and

would no doubt also help alert all the actors in the education system to the challenge of ensuring a command of linguistic competences on the part of all students.

10.b. The aim of a second group of measures is to encourage teacher trainers and school administrative staff to give clear consideration to the language dimensions in teaching and assessment.

i. The aforementioned approaches can only be effectively implemented if the main actors, namely the teachers and the "educational teams", are made fully aware of the importance of the linguistic dimensions for learner success and are supported in the attempt to ensure appropriate implementation of the recommendations and guidelines set out in the programme. It is vital to ensure awareness raising and training for teachers in forms tailored to the context. Such training can only help teacher teamwork by setting preparation for such consultation and co-operation as an autonomous goal.

Similarly, school administrative staff must be prepared to fully play their role in motivating the educational teams for taking all these aspects into consideration. Consultation among all members of the educational team is highly desirable. This consultation should cover two fields of action. Firstly, the gradual mastery of the discursive genres specific to each subject necessitates consultation among all the teachers of the same subject involved at different stages in the school programme. Secondly, pedagogical consideration of the convergences among the linguistic dimensions of different school subjects should lead the teachers of these subjects to act coherently, whether concurrently for the same student level or successively, for the different learning processes.

ii. Responsibilities in terms of specifying the contents to be taught and drawing up educational recommendations may be apportioned very differently, depending on the education system, between the national/regional level and individual school level. Yet whatever the internal organisation at national or regional level, the important thing is to ensure maximum coherency among these different levels in terms of attention to the role of the linguistic dimensions vis-à-vis the success of all learners. Such coherency is one of the preconditions for effectively implementing the above-mentioned approaches in schools. Depending on the educational culture, schools are offered different modalities and room for manoeuvre in defining their own means of providing teaching. However, the educational teams generally have margins of discretion allowing them to consult each other with an eye to gradually promoting synergies and improving the coherency of their respective actions. The possible field for such consultation is extensive, and may, for instance, concern the rates of progression to be adopted, teaching and assessment methods, and implementation of learning situations.

The role played by administrative staff should be highlighted; such staff should be urged to shoulder complete responsibility in motivating teachers to adopt the recommended approaches.

Modern language teachers can also usefully fuel discussions in school on the requisite language policies. The vocational training and experience available to such teachers gives them particular expertise which can be called upon. In fact, various bilingual forms of teaching or arrangements for incorporating language teaching into the teaching of a different subject (CLIL/EMILE), in which one or more subjects are partly or completely taught in a language other than the main language of schooling, are already providing opportunities for productive exchanges between language teachers and specialists in the different school subjects. Such co-operation is conducive to providing learners with a command of the linguistic forms necessary for acquiring knowledge and organising as effectively as possible the progression in using these modes of expression.

Lastly, all these approaches could be furthered by involving students' parents and, in some cases, the relevant associations. Such assistance would presuppose supplying information and explanations not only to the learners but also to their families.

10.c. A third set of measures addressing teacher trainers and other educational players is geared to the implementation of diagnostic and assessment processes regarding language competence as well as to different ways of supporting the acquisition of such competences.

i. In order to be effective, any type of educational progression must take account of learners' capacities for appropriating new knowledge or competences on the basis of what they have already learned. For instance, the expected progression in the learning process should be based on the reality of the students' linguistic competences and should support the learners in their language acquisitions. Such an approach helps involve learners in such development of their capacities by making them aware, in context, of the requisite linguistic skills and creating opportunities for reflection on their past or future progression.

ii. Similarly, students' know-how in different registers of the common language or their spontaneous use of linguistic forms unsuited to communication in class concerning items studied should be taken into account, so as to enrich their competences gradually and specifically. From this angle it is useful to highlight the importance of using plural forms of mediation (reformulation, diversification of media and modes of interaction, etc).

A school policy can also incorporate reflection on the mode of consideration of all the languages present in the school, eg regional, minority, foreign or migrant-group languages. Looking for the most effective ways of fostering each learner's success in his or her chosen courses presupposes also taking account of the specific resources which could potentially help this progression. Among such resources, in addition to the prior knowledge and experience relating to the specific subject, it is possible also to integrate the linguistic knowledge and competences which students may already have on arrival at school: languages of origin, minority or regional languages, languages different from the language of schooling, learned in the family environment or informally during the student's individual career, as well as varieties of the language of schooling different from those corresponding to school standards.

Some learners may also have acquired, from their previous experience or the communication practices of their personal environment, a sounder command of a language other than the language of schooling or subject-based knowledge acquired by means of this other language. Such linguistic and cultural background can provide solid bedrock for the learner in acceding to and exploring knowledge, and supplies resources for the learning process. In some contexts, for instance, students may, for reasons of efficiency, be invited to mobilise their competences and knowledge in order to appropriate new contents and verbalise, in this different language, cognitive processes linked to the ongoing subject-based learning processes. Recourse to this personal background knowledge can trigger an extremely useful temporary digression conducive to more effectively ensuring individual linguistic development, thus facilitating mastery of the language of schooling. Use of this language respects the learner's level of cognitive development, which is accordingly no longer limited, by his or her still inadequate mastery of the language of schooling, at a less mature stage of verbalisation and manipulation of subject-based concepts and contents. Moreover, such recognition by the education system of the dignity and value of something which greatly contributes to individual identities fosters the learner's self-esteem, with all the potential positive effects on individual commitment to the learning process.

iii. Clearly, the analysis of the programmes and discussions conducted on the linguistic dimensions of learning processes in the different subjects primarily has consequences for educational materials and practices. It obviously also has effects on the assessment methods and the preparation of learners for the requirements of the latter, covering understanding of tasks, instructions or questions, presentation of knowledge and verbalisation of the implementation of specific competences.

Anticipation by teachers of the linguistic expectations from assessment and learner preparation – via awareness and assistance in securing a command of these linguistic aspects – fosters learner success and therefore improved equity in education.

Assessment has a range of different purposes: it may be diagnostic (to identify learners' aptitudes and needs and the possible resources available to them), formative (to help teachers and learners in conducting the learning processes), or qualification-oriented (to validate, in the form of an overall assessment, the knowledge and competences acquired). Each of these purposes has corresponding specific procedures, in which the importance of explicit consideration of the linguistic components may vary.

iv. These linguistic dimensions are completely relevant in the particular case of diagnostic or formative assessment. Efforts should be made to enhance successes, even partial ones, in this field, and self-assessment may have a more specific role to play here. Furthermore, such an approach associates the learner more closely with his or her pathway towards educational success; it helps the learner become fully aware of the linguistic dimensions of the tasks he or she is being asked to perform. Assessment can thus single-mindedly serve the requirements of learning.

10.d. Co-operation at European level

The linguistic characteristics of each context, the specific relations between subject areas and linguistic skills, the place of language in identity-building and intellectual and aesthetic development, as well as educational traditions, all play a particularly important role as regards the

language of schooling; very specific consideration must be given to them in implementing the recommended approaches.

This does not lessen the importance of co-operation at European level for which the Council of Europe intends to provide substantial assistance to its member States, whether through the Language Policy Unit (DGII, DDCP, Education Department) (www.coe.int/lang) or the ECML (www.ecml.at). This assistance can take many forms:

i.   the organisation of discussion forums on language policies allowing exchanges among education authorities of the member States;

ii. assistance with the process of pooling experiments conducted and tools utilised locally through the Council of Europe websites, in particular the "Platform of resources and references for plurilingual and intercultural education" of the Language Policy Unit;

iii. provision of analytical tools and expertise of the Language Policy Unit for the development of school curricula which take account of the linguistic dimensions of all school subjects, essential in avoiding underachievement;

iv. training for teacher trainers and school teams by the ECML on the cross-disciplinary dimension of languages.

All these initiatives contribute greatly to boosting European dynamics, with due respect for the need to take account of specific contexts.

Appendix 2
References and proposals for further reading

ACADEMIC LANGUAGE AND LITERACY

Anstrom K. et al. (2010), "A review of the literature on academic language: implications for K–12 English language learners", George Washington University Center for Equity and Excellence in Education, Arlington, Virginia, available at www.vidyablog.com/LitReviewAcademicEnglish.pdf

This report reviews current literature to determine what is known and not known about the nature of academic English (AE), instructional practices used to teach it, teacher preparation and training to improve instructional practice, and policies that support academic English. It raises critical challenges for the field in defining AE and suggests areas for further inquiry.

Duszak A. (ed.) (1997), *Culture and styles of academic discourse*, Mouton de Gruyter, Berlin/New York.

Schleppegrell M. J. (2004), *The language of schooling: a functional linguistics perspective*, Lawrence Erlbaum Associates, Mahwah, New Jersey/London.

This is a highly influential text. It extends the view on classroom language use beyond the level of lexis and syntax to the level of texts, and to choices students have for meaning-making and text production based on functional linguistics concepts and Michael Halliday's socio-semiotic approaches to discourse analysis.

Scarcella R. (2003), "Academic English: a conceptual framework", University of California Linguistic Minority Research Institute, Santa Barbara.

This paper discusses approaches to the study of AE and presents a multi-dimensional framework for analysing it.

Uribe D. (2008), "Characteristics of academic English in the ESL classroom", *The Internet TESL Journal XIV* No. 3, available at http://iteslj.org/Articles/Uribe-AcademicEnglish.html.

This article characterises AE according to the following dimensions: linguistic, cognitive and socio-cultural/psychological. Components and features are listed for each dimension. It is a brief and well-structured presentation also suitable for teachers.

Vacca R., Vacca J. and Mraz M. (2010), *Content area reading: literacy and learning across the curriculum*, Allyn & Bacon, Boston.

This is a standard text on content literacy consisting of two parts: part 1, "Learners, literacies, and texts", focuses on the cultural, linguistic and academic diversity of today's learners, and part 2, "Instructional practices and strategies", focuses on evidence-based teaching strategies.

Zwiers J. (2008), *Building academic language: essential practices for content classrooms*, Jossey-Bass, San Francisco.

The focus is on language for academic thinking – subject-specific variations of academic language (e.g. language as subject, history, maths) – forms of classroom discourse and language for academic writing.

THE LEARNER AND THE LANGUAGE(S) OF SCHOOLING

Cummins J. (2011), "Putting the evidence back into evidence-based policies for underachieving students", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("The learner and the languages present in school")

Cummins J. (2013), "Immigrant students' academic achievement: understanding the intersections between research, theory and policy", in Gogolin I. et al. (eds), *Herausforderung Bildungssprache – und wie man sie meistert*, Waxmann, Münster, pp. 19-41.

Thürmann E., Vollmer H. and Pieper I. (2010), "Languages of schooling: focusing on vulnerable learners", Council of Europe, Strasbourg, available at www.coe.int/lang ("Languages of schooling").

SUBJECT-SPECIFIC LITERACIES

General

Beacco J.-C., Coste, D, Ven P.H.M. van de, Vollmer 11. (2010), "Language and school subjects: linguistic dimensions of knowledge building in school curricula", Council of Europe, Strasbourg, available at www.coe.int/t/dg4/linguistic/langeduc/BoxD2-OtherSub_en.asp, accessed.

A general approach is suggested enabling different levels of specification of language dimensions to be classed in transversal descriptive categories. It describes the process leading from units for analysis of actual uses, to the identification of linguistic forms and mechanisms appropriate to those uses. It addresses not only authors of curricula and textbooks and the designers of tests and teacher trainers; but especially teachers of subjects sometimes quite wrongly described as "non-linguistic".

Becker-Mrotzek M. et al. (eds) (2013), *Sprache im Fach. Sprachlichkeit und fachliches Lernen*, Waxmann, Münster.

The volume "Language in content classrooms – linguistic perspectives of subject-specific teaching and learning" is divided into five sections: (1) cross-sectional issues relating to many or all school subjects, (2) German as subject, (3) mathematics, (4) (natural) sciences, and (5) social sciences approaches. The contributions focus on conceptual issues and make valuable reading for language and subject experts engaged in teacher training, curriculum development and classroom research.

Jetton T. and Shanahan C. (eds) (2012), *Adolescent literacy in the academic disciplines*, Guilford Press, London.

Language as subject

Aase L. et al. (2009), "Reading", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Language as subject").

The topics addressed are as follows: connections between reading and writing, learning to read, learning to read in plurilingual contexts, reading development, reading literacy and reading strategies, reading for different purposes, variety of texts and genres, choice of text, literature, reading as text-reception, questions for consideration.

Aase L. et al. (2009), "Writing", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Language as subject").

The topics addressed are as follows: learning how to write, writing development, writing for different purposes, genres in writing, the writing process, writing in language as subject in multicultural and plurilingual classrooms, writing in modernity, multimodal texts, writing as text production, questions for consideration.

Council of Europe, *Language as a subject*, available at www.coe.int/lang-Platform ("Language as subject").

Mathematics

Echevarría J., Vogt M. and Short D. (2009), *The SIOP model for teaching mathematics to English learners*, Pearson Education, Canada.

This publication offers a guide for educators to help them promote academic language and development along with comprehensible mathematics content.

Linneweber-Lammerskitten H. (2012), "Items for a description of linguistic competence in the language of schooling necessary for teaching/learning mathematics (in secondary education). An approach with reference points", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Language(s) in other subjects").

Ongstad S. (2007), "Language in mathematics? A comparative study of four national curricula", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Language(s) in other subjects").

Prediger S. (2013a), "Darstellungen, Register und mentale Konstruktion von Bedeutungen und Beziehungen – Mathematikspezifische sprachliche Herausforderungen identifizieren und überwinden", in Becker-Mrotzek M. et al. (eds), *Sprache im Fach – Sprachlichkeit und fachliches Lernen*, Waxmann, Münster, pp. 167-83.

Prediger S. (2013b), "Group Work 1: languages in learning school subjects", Strasbourg, Council of Europe, available at www.coe.int/t/dg4/linguistic/Source/Source2013_Conf/WG_Prediger.pdf.

Schleppegrell M. (2010), "Language in mathematics teaching and learning: a research review", in Moschkovich J. N. (ed.), *Language and mathematics education: multiple perspectives and directions for research*, Information Age Publishing, Charlotte, pp. 73-112.

Sciences

Lemke J. (1990), *Talking science: language, learning and values*, Ablex, Norwood, New Jersey.

This is a detailed study of the discourse in science classrooms.

Short D., Vogt M. and Echevarría J. (2010), *The SIOP Model for teaching science to English learners*, Pearson, London.

This publication offers a guide for educators to help them promote academic language and development along with comprehensible science content.

Tanja T. and Stark K. (eds), (2009), *Science education unlimited: approaches to equal opportunities in learning science*, Waxmann, Münster.

Vollmer H. (ed.) (2007), "Language and communication in the teaching and learning of science in secondary schools", Council of Europe, Strasbourg, available at www.coe.int/t/dg4/linguistic/Source/Prague07_LangCom_VollmerEd_EN.doc

Vollmer H. (2010), "Items for a description of linguistic competence in the language of schooling necessary for learning/teaching science: an approach with reference points (at the end of compulsory education)", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Language(s) in other subjects").

Social sciences/history

Beacco J.-C. (2010), "Items for a description of linguistic competence in the language of schooling necessary for learning/teaching history: an approach with reference points (end of obligatory education)", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Language(s) in other subjects").

Nokes J. (2013), *Building students' historical literacies: learning to read and reason with historical texts and evidence*, Routledge, New York.

Schleppegrell M. et al. (2004), "The grammar of history: enhancing content-based instruction through a functional focus on language", *TESOL Quarterly* 38, 1, pp. 76-93.

Short D., Vogt M. and Echevarría J. (2010), *The SIOP model for teaching history-social studies to English learners*, Pearson, London.

LITERACY COACHES AND LANGUAGE LEARNING ADVISORS

Schmölzer-Eibinger S. et al. (2008), *Handbuch Sprachförderung im Fachunterricht in sprachlich heterogenen Klassen*, Uni Graz, FDZ, available at www.bmbf.gv.at/schulen/unterricht/ba/dic_bericht_lang_24484.pdf?4dzgm2.

This publication provides practical guidelines for literacy coaches and schools with linguistically heterogeneous classes based on a research project on language-sensitive content teaching – besides information concerning the character of academic literacy and strategies of language support, a comprehensive list of criteria for and

indicators of appropriate language-sensitive teaching is offered. This list can also be used for evaluation and teacher-training purposes.

Sturtevant E. (2004), *The literacy coach: a key to improving teaching and learning in secondary schools*, Alliance for Excellent Education, Washington DC.

This text focuses on language support for adolescents, reasons for language-sensitive content teaching, effective literacy strategies, pathways for becoming a school-based literacy specialist, and examples of successful coaching programmes.

Toll C. (2005), *The literacy coach's survival guide: essential questions and practical answers*, International Reading Association, Newark, Delaware.

The focus here is on coaching skills. It provides tools and tips to guide literacy coaches as they work in schools to promote more effective literacy instruction.

LANGUAGE SCAFFOLDING

Coelho E. (2012), *Language and learning in multilingual classrooms: A practical approach*, Multilingual Matters, Bristol.

This is a comprehensive handbook for teachers. With regard to scaffolding academic language, section 2 is important in so far as a whole-school approach to literacy development is propagated. In section 3, scaffolding techniques for oral language, reading and writing are explained.

Gibbons P. (2002), *Scaffolding language, scaffolding learning: teaching second language learners in the mainstream classrooms*, Heinemann, Portsmouth, New Hampshire.

Theoretical and empirical underpinnings for the concept of scaffolding are presented. It is argued that the regular curriculum offers the best language learning. A wide range of teaching and learning activities across the curriculum, supplemented with programming and assessment formats and checklists, is offered.

Hammond J. (ed.) (2001), *Scaffolding: teaching and learning in language and literacy education*. Primary English Teaching Association, Sydney.

This publication contains six essays explaining where the term "scaffolding" comes from, and that content cannot be taught apart from the language about that content: (1) "What is scaffolding?" (Jennifer Hammond and Pauline Gibbons); (2) "Scaffolding and language" (Jennifer Hammond); (3) "Scaffolding in action: snapshots from the classroom" (Tina Sharpe); (4) "Scaffolding oral language: 'The hungry giant' retold" (Bronwyn Dansie); (5) "Mind in the classroom" (Pauline Jones); and (6) "Learning about language: scaffolding in ESL classrooms" (Brian Dare and John Polias).

Walqui A. (2006), "Scaffolding instruction for English language learners: a conceptual framework", *The International Journal of Bilingual Education and Bilingualism* 9, 2, pp. 159-80, available at www.educacion.gob.es/exterior/centros/losangeles/es/series/201003-Scaffolding-Walqui.pdf.

This paper presents the concept of scaffolding from a psychological (Vygotsky, Bruner, etc.) and socio-cultural (Haliday) perspective. It discusses relevant research findings and explains steps, features and types of pedagogical scaffolding and language support.

Walqui A. and van Lier L. (2010), *Scaffolding the academic success of adolescent learners: a pedagogy of promise*, West Ed, San Francisco.

CLASSROOM DISCOURSE AND ORAL SKILLS

Gibbons P. (2007), "Mediating academic language learning through classroom discourse", in Cummins J. and Davison C. (eds), *International handbook of English language teaching*, Springer, New York, pp. 701-18.

Mercer N. (2000), *The guided construction of knowledge: talk amongst teachers and learners*, Multilingual Matters, Clevedon.

This text explains the process of teaching and learning as a social, communicative activity. It contains transcribed episodes of speech between learners and teachers, and learners to learners.

Mercer N. and Hodgkinson S. (eds) (2008), *Exploring talk in school*, Sage, London.

This book contains a number of chapters by different authors examining ways of improving classroom talk.

Zwiers J. (2007), "Teacher practices and perspectives for developing academic language", *International Journal of Applied Linguistics* 17, 1, pp. 93-116.

This study investigates the ways in which middle-school teachers in the United States develop academic language in intermediate-level English learners who attend mainstream content classes.

WRITING ACROSS THE CURRICULUM: WRITING TO LEARN, WRITING IN THE DISCIPLINE

The WAC Clearinghouse, *An introduction to writing across the curriculum*, available at http://wac.colostate.edu/intro, accessed 26 March 2016.

This is an open-access, educational website supported by Colorado State University. It provides a coherent presentation of conceptual and practical issues of writing for academic purposes with a bibliography and scholarly links. It is part of an international network on writing across the curriculum.

CURRICULAR FRAMEWORKS FOR THE LANGUAGE OF SCHOOLING

Beacco J.-C., Byram M. Cavalli M., Coste D., Egli Cuenat M., Goullier F., Panthier J. (2015), "Guide for the development and implementation of curricula for plurilingual and intercultural education", Council of Europe, Strasbourg, available at www.coe.int/lang-Platform ("Curricula and Evaluation").

This second, substantially revised and enriched edition of the guide comprises three chapters. The first defines important concepts, in particular curricula and the role they play in plurilingual and intercultural education (PIE). Transversality being a key feature of PIE, the second chapter indicates the main areas of language teaching, in whichever category (foreign or minority languages, languages of schooling, etc.), where convergence is possible. The third chapter proposes procedures for taking account of this dimension in curricula and provides reference examples in the form of "scenarios". The appendices at the end of the publication provide useful reference tools and inventories.

EDK (2011a), *Grundkompetenzen für die Mathematik. Nationale Bildungsstandards*, EDK/CDIP/CDPE/CDEP, available at http://edudoc.ch/record/96784/files/grundkomp_math_d.pdf.

EDK (2011b), *Grundkompetenzen für die Schulsprache. Nationale Bildungsstandards*, EDK/CDIP/CDPE/CDEP, available at http://edudoc.ch/record/96791/files/grundkomp_schulsprache_d.pdf.

The Swiss national educational standards for the language of schooling at the end of years 4, 8 and 11 are specified according to skills (listening, reading, speaking, writing), spelling and grammar.

Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen (2011), "Kernlehrplan und Richtlinien für die Hauptschule in Nordrhein-Westfalen. Mathematik. www.schulentwicklung.nrw.de/lehrplaene/upload/lehrplaene_download/hauptschule/Mathe_HS_KLP_Endfassung.pdf

This curriculum for lower ability stream (years 5 to 10) includes exit criteria for academic language achievement in mathematics. It focuses on discourse functions and linguistic elements with a similar approach in other subject-specific curricula for basic education.

Norwegian Directorate for Education and Training (2012), *Framework for basic skills*, available at www.udir.no/PageFiles/66463/FRAMEWORK_FOR_BASIC_SKILLS.pdf?epslanguage=no.

To use for subject curricula groups appointed by the Norwegian Directorate for Education and Training. This is a generic framework developed to serve as a reference document for developing and revising the national subject-specific curricula. It focuses on five skill areas fundamental to learning in all subjects as well as a prerequisite for the pupil to show his/her competence and qualifications (oral skills, reading, writing, digital skills, and numeracy). Subject-specific curricula are committed to describe how the five basic skills contribute to developing the pupils' competence and qualifications and how these skills are integrated into the subject.

The George Washington University Center for Equity and Excellence in Education, *Linking academic language to academic standards,* available at http://programs.ccsso.org/projects/ELLCONF/Presentations/430-530NextGenAccountability/Next%20Generation%20Accountability.pdf

This is a web-based tool to identify academic language requirements for teaching and learning-specific curricular content.

EVALUATION AND QUALITY DEVELOPMENT

The George Washington University Center for Equity and Excellence in Education (1996), *Promoting excellence. Ensuring academic success for English language learners*, available at www.cgu.edu/include/guidingprinciples.pdf

> *This website offers a comprehensive set of indicators for different educational stakeholders concerning the inclusion of language learners in quality mainstream education. Many of the indicators are relevant for the evaluation of school-based efforts to support the acquisition of academic literacy.*

Regionale Arbeitsstellen zur Förderung von Kindern und Jugendlichen aus Zuwandererfamilien. *Checkliste zur durchgängigen Sprachbildung und interkulturellen inklusiven Schulentwicklung. Essen (RAA).*

> *This publication offers a comprehensive set of indicators for different educational stakeholders concerning the inclusion of language learners in quality mainstream education. Many of the indicators are relevant for the evaluation of school-based efforts to support the acquisition of academic literacy.*

Appendix 3

Language-sensitive teaching of so-called non-language subjects: a checklist[107]

T he following checklist is intended for subject teachers who would like to reflect more closely on the language dimension of their own teaching and its implications for their students' development of subject literacy. The checklist can also be used as a tool for mutual classroom observation and discussion among subject teachers within a school. It is NOT meant as an instrument for external evaluation. The checklist consists of statements related to different aspects of classroom language use:

1. Transparency of language requirements in setting up attainment targets and tasks for subject-specific learning;

2. Use of language by the subject teacher;

3. Classroom interaction and opportunities for the students to speak;

4. Scaffolding academic discourse skills, strategies and genres;

5. Linguistic appropriateness of materials (texts, different media, teaching/learning materials);

6. Linguistic aspects of evaluating academic language and content achievement.

Each of the statements, when considered to hold true or applicable for one's own teaching, can be ticked off. Those statements that do not apply (yet) may give rise to further reflection by the individual teacher or discussions with colleagues. Based on the advice of subject teachers, we have deliberately kept the checklist simple and avoided using scales. But if there is a demand for scales, these could be easily created, for example from 1 to 4, as a tool for drawing up profiles of the strengths and weaknesses of a teacher's language-sensitive content teaching. Such a procedure would also allow subject teachers to map the degree of progress made in specific areas of pedagogical action – provided the checklist is applied repeatedly with the purpose of devising a more differentiated agenda for further professional development.

Some of the statements may be more relevant than others. Some of them may not apply at all for a specific subject area or a specific pedagogical purpose. Still others could be added by subject teachers when they critically reflect on the language dimension of their own or their colleagues' teaching practice.

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107. An extended version of this checklist has been published in German: Thürmann, Eike and Vollmer, Helmut Johannes (2012), "Schulsprache und Sprachsensibler Fachunterricht: Eine Checkliste mit Erläuterungen", in Röhner C. and Hövelbrinks B. (eds.), *Fachbezogene Sprachförderung in Deutsch als Zweitsprache*, Juventa, Weinheim, pp. 212-233.

1. TRANSPARENCY OF LANGUAGE REQUIREMENTS IN SETTING UP ATTAINMENT TARGETS AND TASKS FOR SUBJECT-SPECIFIC LEARNING

1.1. At the beginning of each teaching unit, I usually explain the intended learning goals and comment on the specific language requirements for reaching these goals, *e.g. in the form of advance organisers with a double focus on content and language.*

1.2. I make sure that the students have clearly understood what the content and the language goals are, *e.g. by asking questions to check understanding and by encouraging students to ask questions for clarification when they are in doubt. My students can expect that I am willing to rephrase learning goals in a language they can understand.*

1.3. When setting tasks or giving assignments, I take particular care to clarify the kind of oral or written verbal action that is necessary for achieving learning goals. My students are familiar with a set of verbs defining specific cognitive as well as linguistic operations, e.g. summarise, characterise, outline. Through the reflective and repeated use of such "operators", learners know which cognitive, linguistic and textual strategies are expected. *I work with a manageable inventory of operators (not more than 12), the meanings of which have been discussed and clarified with the students.*

1.4. When setting more complex tasks that leave room for individual problem solving and which take up a longer period of time to solve, I communicate these tasks in writing and propose a series of steps that might be useful for problem solving. For each step, I explicitly indicate language demands and cognitive requirements.

1.5. When planning my courses, I take particular care to expand the students' academic language competences. In doing so I consider:

(a) cognitive-linguistic functions: e.g. negotiating, naming/defining, describing / presenting, explaining, arguing, evaluating, modelling, simulating.

(b) Genres relevant for my subject area: e.g. description of an experiment, writing minutes, analysing a newspaper article, giving a PowerPoint presentation, retrieving information from factual prose.

(c) Communicative skills: listening (comprehension), reading (comprehension), connected speech, talking with one another (dialogue), writing/text production.

1.6. At the end of a teaching unit, I discuss with my students whether the content and language goals have been reached or not, why and what the consequences and next steps should be.

2. USE OF LANGUAGE BY THE SUBJECT TEACHER

2.1. In my teaching, I use linguistic means and strategies in a very reflective way. I choose different language registers that are functional and appropriate for different teaching situations. *I distinguish between an informal, everyday language register (e.g. when the organisation of the learning process is being negotiated), a more formal register of general academic language (e.g. when learning paths and negotiation of meaning are at stake), and a subject-specific register to establish cognitive concepts, e.g. by applying subject-specific terminology ("mass" instead of "weight") or by providing collocational expressions ("exerting force on something" in physics).*

2.2. I am aware that imagery, figurative expressions, metaphors, idiomatic phrases and elements of a regional dialect, also irony and/or sarcasm are not easy to understand and to process for many students. Therefore, I mainly use topic- and process-related neutral expressions in situations of formal teaching.

2.3. My students need a model for their own academic language development. I provide students with such language elements (general academic words and expressions, subject-specific terminology and set phrases) by integrating them into my own language performance as a teacher, *e.g. I use thinking-aloud techniques making inner monologues public, emphasise specific patterns, structures and linguistic means through intonation and body language, repeat and paraphrase relevant language material to direct their attention and to facilitate their language intake.*

2.4. I consciously support important statements, requests or questions with appropriate sentence intonation and gestures so that students can assess the general message even if they do not understand the details.

2.5. I adapt my speech tempo and the use of language means as far as feasible to the competence level of my students: *simplifications like "motherese" or "teach-speak" do not really help students to develop academic literacy. Therefore, in situations of formal content teaching, I choose expressions slightly above the students' competence level for them to adopt such language patterns. On the other hand, I know which of the students have difficulty following the oral interaction in the classroom. I use simple, short sentences when dealing with these learners and – when necessary – informal, colloquial words.*

2.6. I normally use a broad range of different non-verbal techniques, signalling important aspects of content as well as transitions from one topic to another, or from one phase of teaching to the next, *e.g. by vocal control and modulation, reduced tempo of speech, lowering or raising the voice, and repetition, gestures, and body language.*

2.7. I try to make difficult areas of subject-specific content comprehensible by using redundancy or by intensifying my verbal investment, *e.g. repetition, rephrasing, paraphrasing, extending meaning, exemplifying and/or giving more concrete examples, summarising and repeating the main points.*

2.8. For the cognitive guidance of the students as well as for facilitating comprehension, I often use "announcing" and "discourse-commenting" words and expressions, *e.g. expressions like "and this is particularly important now" or "we will deal with this on Monday in more detail", back- or forward-references like "please recall what we said about the structure of a lab report".*

2.9. When communicating important content to the students in writing, I make coherent statements and take particular care to use appropriate expressions and to avoid slips of the pen and spelling mistakes. My writing serves as a model for the students to adopt for their own use, *e.g. I try to avoid using lists of keywords in writing on the blackboard, transparencies, computer projections or work sheets; I also pay attention to the basic rules of punctuation and let students "check" my texts.*

2.10. According to the students' needs and the subject-specific demands of teaching targets, I play different roles, *e.g. as a person providing information or giving linguistic help or structuring cognitive processes.*

3. CLASSROOM INTERACTION AND OPPORTUNITIES FOR THE STUDENTS TO SPEAK

3.1. I control my own share of speech in the classroom so that there is more time for contributions on the part of the students. I am aware that teachers normally take up a high proportion of classroom talking time (on average between 60% and 80%), and that they underestimate their own share and overestimate the students' share. Therefore, I carefully reflect on what to say when and how.

3.2. For the sake of language learners, oral interaction in my classroom is slowed down. I leave enough time for the learners to construct meaningful and complex utterances. Normally I wait for 3 to 5 seconds after I have asked a question or have stimulated a response before a student is given a turn. My students need time to think about how they can express their thoughts and ideas in a coherent way. This prevents me from firing quick successions of questions at my students. In addition to allowing adequate time for students' verbal (re-)actions, I often provide them with structural frames, sentence stems and patterns for complex utterances that they can use for various purposes in classroom interaction.

3.3. I arrange my questions and impulses for the students in an open way so that they cannot respond with single words or gestures only. During classroom talk, I avoid scripted questions and patterns of a triadic dialogue (IRF cycles = initiation, response, feedback). Such patterns force students into a reactive role and complicate, if not block, further development of their academic language competences because they are not supposed to speak in an extended and connected way, and they do not learn how to open a subject-specific discourse nor how to influence its course.

3.4. I give corrective feedback only when language performance has a function for reaching particular subject-specific goals.

3.5. I deal respectfully with students' contributions when they are inappropriate in content or language terms and try to motivate them for self- or peer-correction, *e.g. by repeating elements of a student's utterance with a question intonation, by using a questioning body gesture, by asking for clarification or for a revised formulation, or by involving other students for help.*

3.6. In my teaching, students are motivated and supported to play different communicative roles, *e.g. as a reporter, moderator, language guard during group/project work.*

3.7 In structuring my lessons, I often leave room for writing. This allows students to think about what they want to express and how they can use language in a coherent and meaningful way. Writing allows students to read their own texts more than once with a critical attitude. They have the opportunity to experiment with language, identify inappropriate words and grammar, improve their arguments – not only by themselves, but also as a collaborative activity. Writing also has a positive effect on their oral language and leads to a deeper cognitive processing of complex topics and problems.

3.8 In order to achieve subject-specific attainment targets, I frequently use open-task formats: these accelerate the development towards cognitive-academic language proficiency. Closed formats, on the other hand, tend to fossilise the achieved language levels and support mainly the learning of factual knowledge.

3.9 My teaching units always include some tasks that challenge higher-order thinking skills and require extended discourse in writing: learning results and task solutions are discussed individually or in class including language aspects. I also make use of writing-to-learn techniques such as "Textlupe" (textual magnifying glass), "Writing beyond the margin…", the "Four Square Writing Method", etc.

3.10 I increase the linguistic "turnover" within my content classroom by planning tasks and forms of work that require a high degree of verbal effort and which, at the same time, students find motivating, *e.g. use of prepared and structured debates, role plays, simulations, presentations in connection with peer evaluation, drama, web quests, and interviews with real or fictional experts for the issues in question.*

3.11 Exercises and group work are organised in such a way that students can engage in verbal exchange and learn from one another, *e.g. through pair work, joint construction of meaning/solutions, peer editing, peer tutoring, think-pair-share techniques, and peer teaching.*

3.12 My subject classroom is organised in such a way that linguistic and communicative needs are supported, *e.g. on the black- or whiteboard there is always a defined space reserved for goal-related language tips and reminders; special seating arrangements make communication easier for work groups or for plenary work; authentic texts are enlarged and put on the wall as "decoration" or "ornaments" together with successful examples of students' writing; rules for classroom interaction are also put up visibly.*

3.13 At least once per semester, I organise a project with my students in which they can experience and prove their communicative competences through contact with life outside school, *e.g. investigations or interviews in relevant areas of work and society; co-operative actions/joint ventures with other educational institutions like universities or with local commerce; participation in competitions – possibly also transnational projects – with partner schools in other countries.*

## 4.	SCAFFOLDING ACADEMIC DISCOURSE SKILLS, STRATEGIES AND GENRES

4.1 My teaching helps students to take responsibility for their own language learning. That is why I make them aware of strategies and methods of language learning: students discover when, how, in what context and through which methods their own language learning will be successful; they experiment with language and discourse strategies; they share these with others; they infer linguistic forms and structures from the model texts; they document learning results in their own wording; and they relate language forms and structures to other languages they know.

4.2 I encourage students to reflect on learning paths and to find out what works for their own learning, paying particular attention to the language domain, e.g. through writing language-learning diaries and working with (language) portfolios.

4.3 I distinguish between situational (point-of-need) and systemic (designed-in) need for language support. For the latter, I provide language scaffolds consisting of model discourse samples, metalinguistic reflection (e.g. genre knowledge), and supplies of relevant language means (academic vocabulary, technical terms, prefabricated expressions, etc.): *"situational scaffolding" refers to language phenomena that have no immediate structural relevance for the subject-specific content under consideration. The need for support in this case normally has to do with individual students' language biographies. For such cases, I offer individual help and guidance and also resources (e.g. dictionaries, access to relevant websites).*

> *"Systemic or goal-related scaffolding" means that subject-specific content goals cannot be reached without the availability of specific language means, reading or writing skills or the mastery of specific discourse functions and genres. In these cases, I either offer discourse models, set phrases, technical terms and appropriate academic vocabulary as well as routine expressions to choose from when working on a problem, or I make students aware of the characteristic linguistic features of particular genres and discourse routines. However, I avoid teaching grammar in a systematic way.*

4.4 I am aware that subject-specific terminology poses a learning barrier for many students. Therefore, I handle complex subject-specific concepts and pertinent terminology with great care. *I concentrate on a minimum of key terms required by the curriculum for content work; these are dealt with, however, in an intense form, distinguishing them from words with a similar meaning in colloquial language use, relating them to other subject-specific terms in the shape of semantic webs, and using definitions in which terms appear in a contextualised form.*

4.5 In planning and providing goal-oriented scaffolds, I usually establish firm functional bonds between basic cognitive-linguistic functions and their characteristic linguistic and textual features, *e.g. negotiating – defining/naming – describing - reporting/narrating – explaining – arguing – evaluating – modelling/simulating.*

4.6 I use different techniques to support students in developing an awareness of the structure, cohesion and coherence of a text, so that they can produce texts on their own.

5. LINGUISTIC APPROPRIATENESS OF MATERIALS (TEXTS, DIFFERENT MEDIA, TEACHING/LEARNING MATERIALS)

5.1 I give students the opportunity to identify language difficulties in dealing with teaching materials and to ask for support.

5.2 In my subject teaching, I support students by making them aware of specific learning techniques and skills so that they can overcome language barriers on their own, especially in reading subject-based texts for information and problem solving, *e.g. inferencing the meaning of words from the context ("intelligent guessing"), deconstruction of syntactically complex utterances/sentences, awareness of elements of word composition, making use of other languages, etc.*

5.3 In case I cannot do without the use of a linguistically "difficult" text for subject-specific reasons, I will offer and provide appropriate forms of help, *e.g. through pre-reading activities, thematically oriented work on word fields, with diagrams or pictures, etc. – but no use of alphabetically organised word lists!*

5.4 In my subject teaching, I increasingly use non-linguistic semiotic systems, especially focusing on their verbalisation or the "translation" of given information from one mode of representation to another, *e.g. films, pictures, schemata, diagrams, statistical material – transforming the content of these forms of representing meaning into other forms, adapting them for different groups of audiences, etc.*

5.5 In my subject classroom, materials of a cognitively challenging nature and/or as support for independent work are permanently available, *e.g. handbooks, encyclopaedias, subject-specific dictionaries, different types of atlases, maps and computers with Internet access.*

5.6 I frequently offer diverse reading activities in order to practice different reading attitudes and different reading strategies and techniques, depending on the respective goals or purposes for reading and learning, *e.g. selective, sequential, diagonal, cursory, intensive or critical types of reading.*

6. LINGUISTIC ASPECTS OF DIAGNOSING AND ASSESSING CONTENT AND LANGUAGE ACHIEVEMENT

6.1 I am aware of the fact that within the usual forms of subject-based assessment of achievement and evaluation, linguistic aspects play a large role – although in many cases implicitly. Nevertheless, I also use task formats that explicitly require the connected and detailed development of ideas and thought in writing down utterances and also in oral presentations. Following assessment, I give feedback to the students not only about subject-specific content, but also about the language and textual aspects of their performance.

6.2 I regularly give qualitative feedback to students about the language aspects of their performance, e.g. in their folders for homework, comments on their portfolio work and texts, also after lessons commenting on language aspects of oral interaction and presentation. I point out ways and means to expand their language repertoires.

6.3 I see to it that subject-specific achievements on the part of the students are also produced in a written form with an acceptable degree of linguistic and textual appropriateness.

6.4 I present my evaluation of the students' achievement and their language-learning progress at least once a semester in a written account that is transparent and comprehensible for the students and their parents.

6.5 In my school and for my subject we have agreed to design a comparative test for parallel classes (courses) to make sure that language development progresses according to age and subject-specific demands.

6.6 For each year at our school, we have clearly defined the language requirements that our students should have acquired and mastered by the end so that they can successfully follow the curriculum in mainstream classes.

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This handbook is a policy and working document which promotes convergence and coherence between the linguistic dimensions of various school subjects.

It proposes measures to make explicit – in curricula, pedagogic material and teacher training – the specific linguistic norms and competences which learners must master in each school subject. It also presents the learning modalities that should allow all learners, and in particular the most vulnerable among them, to benefit from diversified language-learning situations in order to develop their cognitive and linguistic capacities.

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