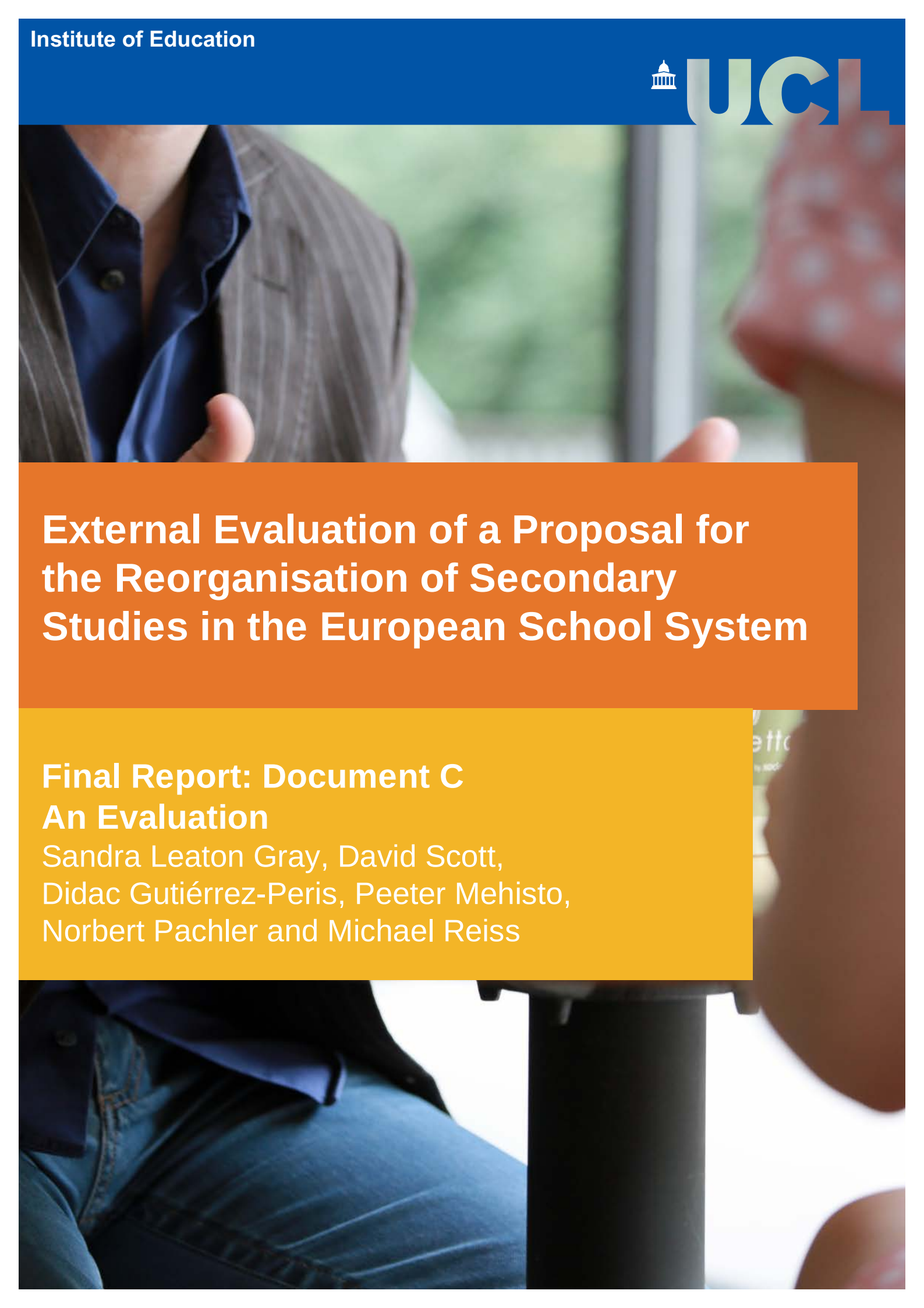




External Evaluation of a Proposal for the Reorganisation of Secondary Studies in the European School System

Final Report: Document C An Evaluation

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Acknowledgements

This evaluation would not have been possible without the extensive and often tireless assistance of stakeholders, including the Commission, Working Group, Interparents, Directors, Deputy Directors, Careers Advisors, Teachers, Students, Alumni, Inspectors, university admissions officers, the UK Department for Education, Mr Kari Kivinen, Mr Giancarlo Marcheggiano, Mr Manuel Bordoy, and colleagues from the central administration of the European Schools including Mr Girolamo Lucania. The evaluation team would like to express their gratitude for this support.

1. Introduction

This is the full report. Report B is a short version of it. Report A summarises its main points.

1.1 History

The European Schools Network has existed since the European Economic Community (EEC) was founded in 1953. The system has its own rules in terms of enrolment, funding and management, as well as its own curriculum. The system was first created as an instrument to meet the educational needs of the children of the civil servants working in Luxembourg for the then newly formed European Union. The different stakeholders (i.e. parents, institution officials, civil servants and policy-makers) reached an agreement that these children should have the opportunity to be educated in their mother tongue, as well as having the same standard of education as their national classmates in their home countries. Two-thirds of the funding comes from the institutions of the European Union. In 1994, when the Statute of the Schools was reformed for the first time, the European Community was responsible for 68% of the annual costs of the system (Swan, 1996, p.72).

The system has remained almost unchanged for four decades, maintaining an enrolment policy that gives priority to children of civil servants. Moreover, from the outset the system has offered its own school certificate, the European Baccalaureate, which is recognised in law by all the universities in the European Union (General Secretary European Schools, 2011). In 2009 the system undertook its most significant reform to date, although these reforms have a longer lineage. The reforms focused on three areas: opening up the system and the European Baccalaureate to other students; governance in and of the system; and cost-sharing amongst the Member States. Here we will concentrate on the first of these: opening up the system and the European Baccalaureate to other students.

'Opening up' is the appellation that the Board of Governors has used in all the official documentation to refer to the first element of the reform of the European Schools. In the first instance, this refers to the creation and consolidation of an accreditation procedure for the provision of European schooling. The accredited national schools are classified as European Schools Type II or III, while traditional European Schools are classified as Type I. The main difference between these three types of European Schools is that Type II and III schools are not intended to focus exclusively on the children of civil servants, but have been established to develop and spread European schooling to the general population in Europe. The system of governance as well as the system of funding in Schools Type II and III also differs from traditional European Schools Type I. The principal difference between Types II and III is that a European School Type II receives a proportional subsidy from the EU in relation to the number of children of civil servants attending. In contrast, Type III European Schools are in no way dependent on European institutions, except in so far as the Board of Governors forges an agreement with the School to certify that the establishment offers European schooling. The distinction between Type II and Type III schools has faded recently. Type III schools are now referred to as accredited schools.

The second element of the policy of opening up involves the transformation of the European Baccalaureate. Type II and Type III Schools are allowed to offer the same final certificate as European Schools Type I. The Baccalaureate is legally recognised in all European universities. Both the system of accredited schools and the process of widening access to the European Baccalaureate are underpinned by the idea that the whole system shares a common pedagogical ethos.

This 'opening up' is based on the idea that the notion of European schooling is a particular, exportable and replicable type of education. This principle is currently operationalised through a centralised system that gives the Board of Governors control over setting, correcting and adapting the common criteria of evaluation. Such criteria were established in 2005 and are updated periodically. Jacques Delors, the former president of the European Commission, once called the European Schools a sociological and pedagogical laboratory (Delors, 1993). Indeed, the most common adjectives used in the literature to refer to European Schools are those of *pioneering* and *experimental*. As noted by Finaldi-Baratieri (2000), this conception of the European Schools as being special presupposes a proactive stance, which goes beyond the official mission of the Schools.

Different academics who have examined the European Schools (including both enthusiasts and critics, such as Swan, 1996; Finaldi-Baratieri, 2000; Savvides, 2006; Shore and Finaldi, 2005) all agree that one of the principal limits of the system is its selective nature. In 2007 the European Parliament requested an extensive analysis of the academic and professional careers of the European Schools' graduates and their backgrounds (European Commission, 2007). This showed, amongst other findings and unsurprisingly, that some of the traditional European Schools recruited more than 90% of their student population from the same family background, i.e. European civil servants. In the case of the European Schools located in Brussels and Luxembourg the demand from Category I children is higher than the number of places available.

One of the reasons for the exclusive character of the schools is that they subscribe to a particular mission and function. The regulations of the system state that 'the setting-up of a European School is (...) justified only when it is vital to ensure the optimum operation of an essential Community [European Union] activity' (Board of Governors, 2009–D–353–en-4). In this sense the criteria for opening new Schools cannot be easily met, and the final decision always depends on the willingness of the member states to initiate the process. Throughout the years there have been numerous cases where these conditions have been met and yet new schools have not been opened, particularly in cities other than Brussels and Luxembourg. The decision to open a new school remains a political decision. The power to establish new European Schools is a formal and exclusive competence that only the member states and their national governments have. In other words, the European institutions and the management bodies of the European Schools do not have the capacity to open up and extend the system: 'the proposal that a European School be set up on the territory of a Member State is initiated by the State in question' (Board of Governors, 2009–D–353–en-4).

The special character of the schools does not reside exclusively in their European identity, but principally in the fact that they are offering an education based on schooling elements that do not exist at the national levels, such as: early multilingual schooling; a unified curriculum across Europe; a pedagogy based on a pluralistic national perspective; and a

multinational student environment. The schools' intention is to foster such particularities at the same time as encouraging a sense of European awareness, promoting knowledge about the institutions, their history and the developing sense of citizenship at the European level. The existing literature about the European Schools has focused on these concerns.

The language policy of the Schools, for instance, has been one of the areas most studied (see Beardsmore, 1993; Bulmer, 1990). European Schools are organised in language sections. Students receive their education in their mother tongue. The study of a first foreign language (English, French or German), known as L2, is compulsory in each school, from the first year of primary school. In addition, all students must study a second foreign language (L3) from the first year of secondary school. Significantly, the subjects of History, Geography and Economics (the latter from the fourth year onwards) are studied in the student's first foreign language from the third class of secondary school, instead of in their mother tongue.

The second main area of academic interest has focused on analysing the history and the general functioning of the schools (see Swan, 1996; Shore and Finaldi, 2005; Smith, 1995). In addition, there is a small number of recent studies that are beginning to offer new lines of investigation, in particular in relation to the study of the European dimension of the system (cf. Savvides, 2006).

The Type 1 European Schools are located in those cities where the European Union has deployed its main administrative bodies. Brussels and Luxembourg have 6 of the 14 Type I European Schools, accounting for more than 60% of the total student population. In order to set up a Type 1 European School, the Board of Governors approved in 2000 the indicative document containing the *Critères pour l'ouverture, la fermeture ou le maintien des Écoles Européennes* (2000-D-7510). Best known in the system by the name of the rapporteur, the 'Gaignage' criteria set a number of conditions that justify politically the creation of a Type 1 European School. The experience since 2000 is that these criteria are not easily met in cities other than Brussels and Luxembourg. For the opening of a Type 1 European School the document mandates that the Board of Governors must take into account three elements: a minimum number of language sections; a minimum number of students per language section; and a minimum number of Category I students. In addition, the initiative for opening a new Type 1 European School has to come from the Member State where the school is to be located.

1.2 Language Issues

European Schools have to deal with a paradoxical situation. On the one hand the founding principle of the system calls for the establishment of language sections corresponding to the linguistic background of their students. On the other, the 'Gaignage' criteria of 2000 states that there has to be a minimum number of students from the same language background before a corresponding section can be created. The four European Schools in Brussels are examples of schools that have sought to maintain a level of diversity and coherence with their intakes. Symptomatically, the number of SWALS (Students without a Language Section) has steadily increased since 2007 and for the year 2011-2012 the number rose to 676, representing approximately 7% of the total population of the European Schools in Brussels (Board of Governors, 2011). Since then the numbers show no signs of decreasing.

Not all European Schools offer the same types of language sections. A Lithuanian student, for example, will have a restricted choice in Brussels. The only school with a Lithuanian section is Brussels II. In some European schools, and for some languages, due to a lack of available students it has not been possible to create specific language sections. The main question regarding language arrangements in the Type 1 European Schools is how to maintain a high degree of plurality and diversity of language sections, while at the same time fulfilling the indicative criteria set by the Gaignage Report in 2000.

1.3 Student Recruitment

The European Schools located in Brussels have systematically suffered from a problem of overcrowding for the past ten years. At the beginning of the 2011-12 academic year the Brussels I school had 3149 students, with an optimal capacity of 3100. The Brussels II school recruited 3176 students, with an optimal capacity of 2850. The Brussels III school enrolled 2923 students, with an optimal capacity of 2650. The only school that had fewer students than its optimal capacity was Brussels IV, with 1052 students, with an optimal capacity of 2800.

This critical situation has been portrayed in every annual report from the Secretariat General since 2005. On average the European Schools in Brussels have been receiving 392 more students each year since 2007 and this number has continued its trajectory since. For the year 2012-2013 (up to October 2012), the number of new students enrolled in one of the four European Schools in Brussels was 1640, which amounted to a 6% increase compared with the previous year.

When faced with the problem of scarcity of places, the Board of Governors has been applying in the last five years a restrictive enrolment policy for Category III students. As indicated in the official enrolment policy for 2013-2014, the enrolment of such students is 'restrict[ed] to the siblings of present students, abiding strictly by the decisions of the Board of Governors concerning this category of students' (Board of Governors, 2012-04-D-9-en-3). This has led to a decrease in the percentage of Category III children in the European Schools in Brussels, providing new arguments for the debate about the potential homogeneity of students within the schools.

The inability to solve the problem of, for example, overcrowding in Brussels, is leading to a major issue of legitimacy. The reform of 2009 was implemented to 'open up' the system to other children than those in Category I, though accredited schools were being introduced earlier. The evolution of the European Schools is, in that sense, contradictory. While the system has started to open up outside the Belgian capital, in the Category 1 European Schools the issue relating to the legitimacy of the whole system of admissions has become more acute.

In addition, the Board of Governors has been implementing in the last 20 years a substantial increase of fees for Category III students. Between 1993 and 2004, school fees for category III students have increased on average by 9% per year. In the 2003/2004 year, the Board of Governors decided to further increase the fees by 33%. Between 2004 and

2012 the fees were frozen in real terms (increasing only with the annual inflation rate), but in December 2012 the Board of Governors adopted again a one-off increase ranging between 20% and 30%.

Most significantly, the report that was presented to the Board of Governors by the 'School Fees' working group on November 2012 included three options. The first option, supported by Interparents, proposed a one-off increase of 2% for the fees of Category III students for the 2013-14 academic year, plus an inflationary increase for the following seven years. The second option, defended by the European Commission, proposed a one-off increase of 51% for 2013-2014, plus an inflation rate increase in the following years. The third option, supported by the European Patent Office, amounted to a one-off increase of 10-30%, plus an inflation rate increase for each subsequent year.

1.4 Themes and Issues

In 2006 the Board of Governors decided to commission an independent analysis of four of the smaller Type 1 European Schools located across Europe. The outcome was the report submitted by the Bureau van Dijk Management Consultants SA in August 2006 (Van Dijk, 2006). This report included a brief comparative analysis of the European Schools and the potential 'alternatives' in terms of international schooling in the four cities studied.

The team of consultants based their conclusions on a series of interviews with the parents, teachers and directors of the four European Schools. The report stated that among the most praised features of the system was that 'comparatively speaking international schools do not offer language tuition as diversified and as intensive as European schools' (*ibid*). Two other elements were highly praised by parents: first, the European Baccalaureate, which is 'recognized by nearly all the Member States and therefore allows their children to follow their studies in any European universities'; and second, 'the multicultural and European citizen spirit brought by the multilingual education of European schools, these being certainly not perceivable in the international schools' (*ibid.*).

This is a 'home grown' system that is 60 years old, and based on a model of an elite European education long superseded by changes in society as well as the Commission itself (not least the growth of the European Union from the original 6 countries in 1952 to the current 28 countries). It is widely agreed that the current system shows signs of inconsistency across different schools and language sections, and that it also shows signs of incoherence. Many students leave the system at ages between 14 and 16 (years 4 and 5) when it is reported that the Science curriculum, for example, becomes significantly more challenging. There is meant to be a free choice of options for students, but the reality is closer to a fairly incoherent assemblage of available subjects and options that changes from school to school and from year to year. There is an overemphasis on timetabling allocation of subjects as a proxy for quality and academic difficulty.

Some teaching groups are extremely small due to a number of variables based on taken for granted assumptions about pedagogy that may not be valid. Within the system, parents' perceptions of student identity are very important, as well as the ability to transfer to university. There is some confusion around the role of languages within the system, and a lack of consideration given to issues surrounding non-MFL subjects in second and third languages, particularly with regard to the needs of the smaller language sections. There are

problems with the European Baccalaureate as a qualification, particularly relating to the use of oral examinations, marking systems, conversion tables and quality assurance systems. And finally, there appears to be a trust and communication breakdown amongst the different stakeholders, and this needs a resolution.

1.5 Aims, Purposes and Methodology of the Study

This report (and its supplementary reports, A and B) have been written in response to the *Invitation to Tender: External Evaluation of a Proposal for Reorganisation of Secondary Studies in the European Schools for Secondary Years 4, 5, 6 and 7*, ref: BSGEE/201401.

The objectives of the study were:

- To establish and demonstrate the impact of the proposed new structure for secondary studies (i.e. Levels S4-S7, though reference is also made to S1-S3 on the grounds that forms of progression and curriculum coherence require consideration of lower secondary as well as upper secondary studies), compared to the current situation.
- To determine whether and to what extent the proposals:
 - o Meet the principles stated in the Convention;
 - o Ensure access to European secondary and tertiary education systems;
 - o Fulfil the mandate given by the Board of Governors;
 - o Take into account the needs of students faced with the demands of the modern world;
 - o Are relevant, coherent, comprehensive, and allow breadth of study for all students in the system;
 - o Conform to the accepted and logical principles of curriculum design;
 - o Guarantee in the last two years, leading to the European Baccalaureate, a general education around the eight key competences for lifelong learning.

We also pay attention here to the possible risks of our proposals and recommendations, as compared to the current situation and the reform proposals, insofar as they might introduce elements of discrimination against minority groups either by language section, gender, learning disability or any other category to the 'status-quo'.

In this report we have provided an account of the proposed reorganisation as well as the current arrangements. The recommendations, proposed new models and suggestions for reforming the system that we make here conform to the evaluative principles referred to above, insofar as they:

- Allow access to national secondary and higher education systems in member states;
- Allow student mobility to and from the European schools and the national education systems;
- With regards to the curriculum are feasible, coherent, broad, educative and conform to the eight competences;

- Impact favourably on specific groups, such as students without a language section, students with special educational needs, students with more than one national language and small language sections;
- Are such that risks can be identified and circumvented.

At this early stage of the report we suggest three sets of risks for our proposals and possible ways of avoiding them:

- Our proposals are radical and fundamental, because they are designed to conform to the criteria set out above. This means that they require administrators, teachers, parents and students to change their longstanding thinking and practices. Any change process within a system needs to be supported and introduced incrementally so as to allow ownership of those changes by all the stakeholders. An example of incremental change is that, instead of implementing in full the aspiration to teach pathway core subjects (e.g. Humanities or Social Studies) by one teacher, in the early stages of the reform they can be taught by more than one teacher (whose background and training are perhaps subject-based). The new curriculum is still integrated and related to those key knowledge, skill and dispositional elements that the European school system has deemed are the most appropriate for teaching that area of the curriculum.
- Reform proposals and their implementation are sometimes treated as piecemeal and compartmental, and this should be avoided. For example, a curriculum reform has a summative assessment/evaluation element, in this case, the European Baccalaureate. If the former is reformed then this has implications for the latter. We are suggesting here that our proposals for the new curriculum apply to all aspects of the life of schools: subjects to be taught, relations between subjects, core and optional curriculum elements, different types of teaching groups, summative forms of assessment, etc., and they cannot be treated as separate items.
- The most important element of a curriculum reform is improving teacher capacity. This can be achieved in two ways: recruiting teachers who already have the requisite knowledge base, skills and dispositions (i.e. they fit the requirements for the new curriculum) or developing pre- and in-service training programmes to compensate for the lack of knowledge, skills and dispositions required to teach the new programmes.

The analysis we have undertaken was carried out through a combination of reading documents and consultations with stakeholders, experts and academics.

We have been asked to compare four different arrangements for the curriculum: the current structure, the proposed new structure, an Interparents' variant, and our own suggestions for reforming the curriculum. [The original plan was to compare the current structure with the proposed new structure. The Interparents' proposals were added to the study at a later date.] In order to make these comparisons, we have judged each of the proposals against the criteria set out above. These criteria are that the curriculum arrangements should:

1. Meet the principles stated in the Convention;
2. Ensure access to European secondary and tertiary education systems;
3. Fulfil the mandate given by the Board of Governors;

4. Take into account the needs of students faced with the demands of the modern world;
5. Conform to the accepted and logical principles of curriculum design;
6. Are relevant, coherent, comprehensive, and allow breadth of study for all students in the system;
7. Guarantee in the last two years, leading to the European Baccalaureate, a general education around the eight key competences for lifelong learning.
8. Can impact favourably on specific groups, such as students without a language section, students with special educational needs, students with more than one national language and small language sections.

Criterion	Current	Proposed	INTER-PARENTS	New Curriculum
Convention Principles	Partially met	Partially met	Partially met	Fulfilled
University Access	Partially met	Partially met	Partially met	Fulfilled
Board of Governors' Mandate	Partially met	Partially met	Partially met	Fulfilled
Demands of the Modern World	Partially met	Partially met	Partially met	Fulfilled
Effective Curriculum Design	Not Met	Not Met	Not Met	Fulfilled
Relevant, Comprehensive, Coherent and Broad	Not Met	Not Met	Not Met	Fulfilled
Eight Key Competences	Not Met	Not Met	Not Met	Fulfilled
Non-discriminatory	Partially met	Partially met	Partially met	Fulfilled

The scope of the analysis is determined by the subject matter of the evaluation. Our contention therefore, is that one element of the curriculum cannot be treated in isolation from all the other elements. Thus, curriculum arrangements in a narrow sense, i.e. the designation of subjects, cannot be adequately examined without also looking at effective curriculum design, curricular aims and objectives, groupings of children by language/capability/age/year, learning environments, teacher capacity and the European Baccalaureate. Our remarks about all these matters are not optional extras but a necessary part of a full and comprehensive analysis of the curriculum arrangements in the system.

There are four sets of proposals (current, proposed, Interparents' and our own) then, and we comment on each in the main part of the report. Criticisms of the first three sets of proposals are made from a number of perspectives. The first of these is that they exhibit some inconsistencies and incoherencies. The second is that they do not conform in full to the principles addressed above, i.e. those of the European Convention, European University access, the Board of Governors' mandate, being appropriate for the demands of the modern world, conforming to an acceptable and rational model of curriculum design,

being comprehensive and coherent, fundamentally conforming to the eight mandated competences, and being non-discriminatory. The third perspective is that they do not address many of the outstanding issues that are relevant to the European school system; in other words, they narrowly focus on a small range of issues without addressing the relations and connections between them. For example, the three sets of proposals do not address in a satisfactory way the issue of discriminatory groupings, such as streaming, setting, multi-age and multi-grade arrangements, and do not show how these are related to all the other issues discussed in this report.

Finally, it is important to understand our proposals as focused on the principles that should underlie any system of education and any set of curriculum arrangements that are made. At various points in the report we offer concrete suggestions as to how those arrangements can be made to work in practice. For example, in the next chapter, we provide an example of a set of curriculum standards (at three levels: S1-S3, S4-S5, S6-S7), which relates directly to the first key competency: Communication in the Mother Tongue. (We have not placed this in an Appendix as we consider this example to be central to an understanding of the core set of issues that we have been dealing with here.) These however, are very much suggestions and not binding imperatives. Furthermore, we argue strongly in this report that the foundations of a European Schools' curriculum are those curriculum standards that the European System of Schooling has decided are the most appropriate forms of knowledge, skills and dispositions for learning in schools. Again, in many places in the report we identify an issue and then suggest that its resolution depends not on our views and perspectives, but on curriculum decisions made by the key stakeholders of the system.

This report focuses on the curriculum, and in particular five elements:

1. The key competency of communication in the mother tongue.
2. The key competency of communication in foreign languages.
3. Mathematical competence, and basic competences in science and technology.
4. Curriculum arrangements in the schools.
5. European schools and higher education access.

2. The Key Competency of Communication in the Mother Tongue

It is important to remind ourselves that mother-tongue communication is more than a competence to be acquired but fulfills a cultural role at the very heart of the European Schools' project (from Jean Monnet's '...Without ceasing to look to their own lands with love and pride...' to being embodied in the First Objective and First Principle of the Schools.) The first principle of the European School system is to safeguard the 'primacy of the students' mother tongue' (L1), and the first objective of the European School system is to 'give students' confidence in their own cultural identity – the bedrock for their development as European citizens'. This chapter will address this particular competence as a curriculum element and show how curriculum standards can be developed from it. These curriculum standards (at different levels) are the central element in any reformulation of the curriculum. In time, there will be a need to develop curriculum standards for all of the eight competences and for all the subject areas that are derived from them. At the moment, the current curriculum arrangements, the proposed rearrangements and the Interparents' variant do not show sufficient evidence of this key curriculum activity being undertaken.

Our intention here is to focus on the centrality of this competency to other elements of the system, such as students' sense of identity, mobility and transition possibilities to and from national systems, student's geographical aspirations beyond school, the teaching of SWALS, and the inclusion of students with learning difficulties/special needs. (We address these issues in chapter five.) Moreover, policy on mother-tongue teaching has a direct relevance to the organisation of studies in S4-7 and the balance of languages in a students' life (sometimes the only subject taught in a students' L1 is L1). In this chapter then, we provide an example of this key curriculum activity.

The suggestions for the proposed curriculum in this chapter are underpinned by three principles.

1. Contrary to the curriculum proposals on offer, each competency needs to be broken down into knowledge components, skills and dispositions.
2. These curriculum standards (derived from the eight competences) are not the same as pedagogic approaches (those arrangements in schools we make to allow learning to take place, and this includes formative processes of assessment) or summative assessments (how we evaluate whether those curriculum standards have been met at set points in time). What this means is that the foundations of any curriculum are those curriculum standards which the European system of schooling has decided are the most appropriate forms of knowledge, skills and dispositions for learning in schools, and not teaching or assessment approaches. Teaching, learning and assessment approaches are derived from these curriculum standards. It is therefore important that the curriculum standard is not compromised in any way by whether it can or cannot be used as a testable construct or teaching approach.
3. These curriculum standards should be expressed at a level of comprehensibility so that teachers, parents and students are able to access them.

A curriculum is an intended programme of learning and has three elements: a set of curriculum standards which set out the expected student achievements (what they know, what they can do and what dispositions they have acquired) at set points of time; a set of pedagogic standards or approaches; and a set of summative assessment or evaluation standards.

In this chapter we give an example of three sets of curriculum standards in Language and Communication at S1-S3, S4-S5 and S6-S7.

2.1 Curriculum Standards

The curriculum standards define what a student should know, be able to do and which dispositions they should have acquired. Standards are statements of expected achievements or level-descriptors defining expected achievements. These three elements then, knowledge, skill and disposition, need to be distinguished. Knowledge of something is the traditional form a set of curriculum standards takes, to which we can add knowledge of how to do something (i.e. skills) and dispositional knowledge. Dispositional knowledge refers to relatively stable habits of mind and body, sensitivities to occasion and participation repertoires. These dispositions include characteristics of the person that persist across time, for example, a positive self-concept as a reader, a desire and tendency to read, and an enjoyment of or interest in reading.

Progression is a key element. Curriculum standards are written at different levels of achievement. Modes of progression have the following forms:

1. *Prior Condition*. In the acquisition of particular knowledge, skill and dispositional elements, there are pre-requisites in the learning process.
2. *Maturation*. A maturational form of progression refers to the development of the mind of the child. There are some mental operations that cannot be performed by the learner because their brain is too immature to process them.
3. *Extension*. An extensional form of progression is understood as an increase in the amount, or range, of an operation. Greater coverage of the material is a form of progression, so a learner now understands more examples of the construct, or more applications of the construct, and can operate with a greater range of ideas.
4. *Intensification*. Related to the idea of extension is the idea of deepening or intensifying the construct or skill. Whereas extension refers to the amount or range of progression, intensification refers to the extent to which a sophisticated understanding has replaced a superficial understanding of the concept.
5. *Abstraction*. There is also a type of progression, abstracting, which involves moving from the concrete understanding of a concept to a more abstract version.
6. *Articulation*. A further measure of progression is an increased capacity to articulate, explain or amplify an idea or construct, i.e. the learner retains the ability to deploy the skill and in addition, he or she can now articulate, explain or amplify what they are able to do and what they have done.

7. *Independent Performance*. A final form of progression refers to the way that the translation of the curriculum standard, for example, into a pedagogical (i.e. teaching and learning) standard also means that progression has to take account of this translation. An example could be moving from an assisted performance to an independent one.

Curriculum standards are written so that students are expected to show progress in their learning between each of the key levels in the designated subjects. We provide here an example of a set of curriculum standards (at three levels: S1-S3, S4-S5, S6-S7), which relates directly to the first key competency: Communication in the Mother Tongue.

2.2 The Language and Communication Strand

The first competency, Communication in the Mother Tongue, is defined in the following way (cf. Recommendation 2006/962/EC of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. Official Journal L 394 of 30.12.2006):

Communication in the mother tongue is the ability to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate and creative way in a full range of societal and cultural contexts; in education and training, work, home and leisure.

Communicative competence results from the acquisition of the mother tongue, which is intrinsically linked to the development of an individual's cognitive ability to interpret the world and relate to others. Communication in the mother tongue requires an individual to have knowledge of vocabulary, functional grammar and the functions of language. It includes an awareness of the main types of verbal interaction, a range of literary and non-literary texts, the main features of different styles and registers of language, and the variability of language and communication in different contexts. Individuals should have the skills to communicate both orally and in writing in a variety of communicative situations and to monitor and adapt their own communication to the requirements of the situation. This competence also includes the abilities to distinguish and use different types of texts, to search for, collect and process information, to use aids, and to formulate and express one's oral and written arguments in a convincing way appropriate to the context.

A positive attitude towards communication in the mother tongue involves a disposition to critical and constructive dialogue, an appreciation of aesthetic qualities and a willingness to strive for them, and an interest in interaction with others. This implies an awareness of the impact of language on others and a need to understand and use language in a positive and socially responsible manner.

This competency is normally grouped under six strands: reading, writing, speaking and listening, multi-modality, knowledge about language and communication, and language and

communication dispositions, and applies to all 24 official languages used in the European School system.

The language and communication strand supports all the purposes and activities in the curriculum, but specifically competence in spoken and written language. At the same time, all six strands are related. Reading and writing are reciprocal, and a curriculum should ensure that such reciprocity is exploited in teaching and learning. Similarly, speaking and listening go together. From the perspective of the productive language skills, speaking and writing can be closely linked; just as reading and listening are both receptive skills (though they also require a good deal of active reading and active listening). It is also possible to exploit the connections between reading and speaking (as in reading out loud) and writing and listening (for example, attending to the process of writing in groups, or listening to each other's drafts).

2.2.1: S1-S3 Language and Communication Curriculum Standards for L1

These standards are grouped under five strands, and include a set of dispositions that are equally important at all three key stages (S1-S3, S4-S5, S6-S7):

1. Reading
2. Writing
3. Speaking and Listening
4. Knowledge about Language and Communication
5. Language and Communication Dispositions

Language and communication support all the purposes and activities in the curriculum, but specifically competence in spoken and written language.

By the end of S3, students should have developed the cognitive capacity to enable them to begin to discuss topics in more depth, to build basic arguments, to take more interest in the world and to become more aware of themselves.

Students at this age are broadly expected to:

1. Initiate dialogue and discussion on topics that interest them, and build considerate development of that discussion towards consensus.
2. Be competent in the written language and be aware of how it relates to other modes of communication.
3. Continue to access culture through a wide variety of genres and media.
4. Continue to develop sensitivity, imagination, initiative and creativity through the verbal and other arts, working toward a greater degree of precision in performance and execution.

1. Reading

Reading covers both fictional and documentary types of text. It is closely allied to writing, reading aloud (speaking), speaking and listening. The links between text and image are emphasized, and written texts should be used to allow talk about experiences and feelings as well as about language. It includes knowledge, skill and dispositional elements. There

will be an increasing emphasis on documentary texts to complement the reading of fiction, poetry and play-scripts. This non-fictional material includes information texts, maps, guides, menus and other 'real world' texts.

The curriculum standards for this strand are as follows:

- 1.1 Identify, read and interpret a range of elementary documentary and literary texts, using appropriate strategies.
- 1.2 Identify personal criteria for choosing a book or other type of text.
- 1.3 Understand the key elements of books, like pagination, title pages, indexes, chapters, sections, and sub-headings.
- 1.4 Identify different types of documentary texts and their communicative purposes, for example, encyclopaedias, regulations, rules of a game, announcements, newspapers, and warnings.
- 1.5 Be familiar with a range of different fictional genres and understand the functional differences between them, for example, poetry, theatre scripts, novels and short stories.
- 1.6 Collect information from a variety of sources.
- 1.7 Identify the basic structure of an argument in a documentary text.
- 1.8 Distinguish between elements of reality and fantasy in literary texts.
- 1.9 Identify the general characteristics of explanatory texts, for example, themes, type of language, and use of illustrations.
- 1.10 Identify the characteristics of an advertising campaign, and the different media involved.
- 1.11 Identify the form and function of jokes, and in particular, the role of language in jokes.
- 1.12 Identify the general characteristics of a poem.
- 1.13 Identify and understand the function of common punctuation forms in reading.

2. Writing

Writing is important to encourage as a means of communication. It is best linked to reading (so that they are seen as reciprocal), speech and other modes of communication (particularly the visual).

The curriculum standards for this strand are as follows:

- 2.1 Understand the function of writing systems, including indigenous ones.
- 2.2 Understand that different types of texts require different forms of writing, for example, stories, posters, tales, news reports, announcements and instructions.
- 2.3 Create elementary examples of documentary and fictional texts, for example, encyclopaedia entries, instructions, announcements, short stories and poetry.
- 2.4 Understand and use keyboards on computers, or speech recognition technology, in developing different ways of writing.
- 2.5 Use arguments in writing to advance a particular cause.
- 2.6 Identify and use word and language games to write jokes and use humour in written texts.
- 2.7 Organise elementary data in a table or graph.
- 2.8 Complete elementary forms.
- 2.9 Identify and use relevant and appropriate words in elementary written sentences.

- 2.10 Use common parts of speech correctly in writing elementary texts.
- 2.11 Use upper-case and lower-case conventions in writing elementary texts.
- 2.12 Use the conventional spelling of frequently used words in writing, and use a hard-copy or electronic dictionary to verify the spelling of a word.
- 2.13 Use common punctuation forms correctly in writing.
- 2.14 Use conventions in writing to distinguish between direct and indirect speech.
- 2.15 Use in writing words and phrases that indicate succession in narrations: 'while', 'after', 'first', 'finally'.
- 2.16 Use in writing words that signal cause and effect, such as 'because', 'that's why', 'as'.
- 2.17 Use in writing conventional representations of numeric data.

3. Speaking and Listening

Speaking is a natural part of communication and can be used for learning in pairs, small groups and in larger gatherings. It is a way of expressing feelings and thoughts in a number of different genres, and is linked to writing and reading. It is closely allied to listening.

The curriculum standards for this strand are as follows:

- 3.1 Understand and use a wide repertoire of speech genres, i.e. to convey emotion or feeling, or to impart information.
- 3.2 Make connections between speech and writing, and speaking and listening.
- 3.3 Utilise a range of speech styles for different situations, understanding that what is appropriate in some situations is not in others.
- 3.4 Participate in conversations and discussions, taking account of order and sequence, both on-line and face-to-face.
- 3.5 Express opinions coherently and listen carefully to others with different opinions.
- 3.6 Select relevant information for a presentation.
- 3.7 Listen carefully and considerately to other people.

4. Knowledge about Language and Communication

This stage shows increasing awareness of language, and a concomitant increase in vocabulary to talk about language. While discussion about language and other forms of communication will continue to arise naturally from the use of language, there are opportunities for more formal attention to how language works in short periods of the language and communication curriculum.

The curriculum standards for this strand are as follows:

- 4.1 Distinguish between formal and informal types of language, and show how the various modes operate separately and together.
- 4.2 Demonstrate increasing enthusiasm for talking about language and other modes of communication.
- 4.3 Appreciate the notion of linguistic diversity and understand the differences in the structure of different languages.

- 4.4 Understand how materials are organised in a library or electronic database.
- 4.5 Know the function and characteristics of the regulations for the use of libraries.
- 4.6 Understand that language and communication are structured in various ways, and that this has implications for European conventions, beliefs and mores, and ways of behaving.

5. Language and Communication Dispositions

These dispositions are persistent qualities associated with language and communication. The curriculum standards for this strand are as follows:

- 5.1 Develop an interest in learning and express this through asking questions, listening and observing.
- 5.2 Value self-authorship and develop a confidence as an author and speaker.
- 5.3 Consider the consequences of their own words and actions for themselves and for others.
- 5.4 Understand the potentiality of, and use language appropriately for, conflict resolution.
- 5.5 Understand the importance of information conservation and develop the skills to retrieve information.
- 5.6 Understand and promote the importance of equal opportunities between men and women.
- 5.7 Respect racial and ethnic differences, and recognize the value of diversity, in communicating with others.
- 5.8 Understand the usefulness of written and spoken codes for communicating and organising ideas.
- 5.9 Demonstrate a competence in the use of the separate modes of communication and together.
- 5.10 Value the linguistic and cultural richness of Europe and other parts of the world.
- 5.11 Develop a positive self-concept as a reader, writer, speaker or listener; a desire and tendency to read, write, speak or listen; and an enjoyment of or interest in reading, writing, speaking and listening.

2.2.2: S4-S5 Language and Communication Curriculum Standards for L1

These standards are grouped under five strands, and include a set of dispositions that are equally important at all three key stages (S1-S3, S4-S5, S6-S7):

- 1. Reading
- 2. Writing
- 3. Speaking and Listening
- 4. Knowledge about Language and Communication
- 5. Language and Communication Dispositions

By the end of S5, children should have developed the cognitive capacity to enable them to begin to discuss topics in more depth, to build basic arguments, to take more interest in the world and to become more aware of themselves as independent learners. As students reach the end of S5, it is expected that they will have developed a wide range of competences in the use of language and that they will be able to appreciate both literary

and documentary texts. They will be aware of the range of modes in which communication can take place, and use such a range in their compositions, as well as reading and interpreting them.

In particular, they will:

1. Be aware of how discussion and argument operate in school and outside school and using different media;
2. Be competent in writing and in a range of other modes, suiting style and form to audience;
3. Continue to access a wider range of culture and media, including international as well as European texts;
4. Feel confident in making presentations of their research and other work to a range of audiences.

This stage of development aims to consolidate the progress made since the start of formal schooling, and also to recognize the advances made in cognitive development, self-awareness and the identification of different modes of communication. Students at this stage are more aware of themselves and their position in families and in relation to the rest of the world. They begin to take an interest in the wider world and in moral issues that arise. Their awareness that thought and imagination operate internally, whereas much communication is social and external, is an important step forward in understanding the importance, function and range of communication.

This is a stage of development where students can move forward independently of their teachers, once they have learnt sufficient study skills and when they feel confident in a range of modes of communication. Research skills can be developed in this phase, plus a keener awareness of types of text and their main characteristics, including internet texts. Increasing responsibility for the part that students can play in a community, and further understanding of how communities work, both help to further learning. The student learns to operate individually and collectively, for example, in reading privately and aloud.

1. Reading

Reading covers both fictional and documentary types of text. It is closely allied to writing, reading aloud (speaking), speaking and listening. The links between text and image are emphasized, and written texts should be used to allow talk about experiences and feelings as well as about language. It includes knowledge, skill and dispositional elements. There will be an increasing emphasis on documentary texts to complement the reading of fiction, poetry and play-scripts. Documentary material includes information texts, maps, guides, menus and other 'real world' texts.

The standards for this strand are as follows:

- 1.1 Identify, read and interpret a range of documentary and literary texts, using the appropriate strategies.
- 1.2 Acquire a basic knowledge of European literature, i.e. authors, texts, genres, including indigenous forms.

- 1.3 Understand the fundamental elements of literary works, i.e. stories, novels, theatre and poetry.
- 1.4 Identify the literary genre that they like.
- 1.5 Identify and distinguish between facts and opinions in expository texts.
- 1.6 Understand the graphic representation of places and routes.
- 1.7 Identify the graphic format and conversational turns of theatre plays.
- 1.8 Understand the structure and function of invitations.
- 1.9 Identify and interpret the content of the different kinds of information that commercial labels offer.
- 1.10 Identify the elements of advertising texts and their functions, i.e. images, sizes and colours, typography, 'shortage' of written text, visual attractiveness and language used.
- 1.11 Recognize the important parts of narratives, i.e. initial state, appearance of a conflict, and a resolution of it, and cause-effect relations between the different parts.
- 1.12 Identify the form and function of biographical and auto-biographical narratives, including: characters, thread, scene, and environment.
- 1.13 Identify the graphic format and the organisation of information in broadcast and print news.
- 1.14 Identify the feelings that poems can evoke and the means for doing this.
- 1.15 Understand the structure and function of a research report.
- 1.16 Understand the relationship between evidence, for example, elementary statistical data, and the conclusions drawn from it.
- 1.17 Identify the form and function of paragraphs in organising written texts.
- 1.18 Understand time-sequencing devices used in written texts, such as, 'first', 'after', 'meanwhile', and 'at the same time'.
- 1.19 Identify and understand the function of common punctuation forms in written texts.
- 1.20 Identify the form and function of different parts of speech in written texts, i.e. nouns, verbs, adjectives, adverbs, prepositions, conjunctions and interjections.
- 1.21 Understand the use of typographic devices in written texts to differentiate between headings, sub-headings and parts of a text.

2. Writing

Writing is important to encourage as a means of communication. It is best linked to reading (so that they are seen as reciprocal), speech and other modes of communication (particularly the visual). The range of writing includes various forms of literary composition and sub-forms, such as haiku, rhymed and unrhymed verse, and ballads in poetry; or autobiography and biography in narrative writing. Documentary writing will continue to expand, differentiating between information-writing and argument-writing. Examples of writing at this stage include the composition of biographies of people they admire, as well as autobiographical writing that draws upon memory and imaginative re-creation. The skills of drafting and editing come more to the fore as writing is tested out with audiences (peers, teachers and others) before completion.

The curriculum standards for this strand are as follows:

- 2.1 Create elementary texts in a variety of formats and styles, and differentiate the style of writing according to the genre, for example, historical accounts, auto-biography, survey reporting, theatre or radio scripts, poems, and advertising announcements.

- 2.2 Write formal letters using the appropriate format.
- 2.3 Complete forms correctly.
- 2.4 Use notes and diagrams in the production of a text. Summarise information in appropriate ways.
- 2.5 Summarise information in appropriate ways
- 2.6 Review and correct written texts.
- 2.7 Use conventional punctuation forms in a variety of written texts, and in particular, to organise dialogue.
- 2.8 Use subordinate, compound and complex sentences in writing texts.
- 2.9 Use upper and lower case correctly in writing texts.
- 2.10 Use the different parts of speech, i.e. nouns, verbs, adjectives, adverbs, prepositions, conjunctions and interjections, correctly in writing.
- 2.11 Correctly spell words in a conventional sense, and use a spell-check if using a computer in writing.
- 2.12 Organise writing into paragraphs, using full stops to separate sentences.
- 2.13 Use graphic accents in words (what, how, when...).
- 2.14 Use links such as: 'by contrast', 'on the other hand', and 'in the same manner', to establish comparisons.
- 2.15 Use words and phrases to establish temporal sequences in writing.
- 2.16 Use words and phrases to indicate causal sequences in writing.
- 2.17 Use appropriate verbs, adverbs, adjectives and prepositional phrases as descriptive devices in writing.
- 2.18 Use figurative language in writing to evoke emotions.
- 2.19 Use alliteration, repetition, rhyme, comparison and metaphor to write poems.

3. Speaking and Listening

Speaking is a natural part of communication and can be used for learning in pairs, small groups and in larger gatherings. It is a way of expressing feelings and thoughts in a number of different genres, and is linked to writing and reading. It is closely allied to listening. In addition to the development evident at the previous stage, speaking is now expected to move toward presentation in a wider range of social situations. Listening needs to be directed in some cases, i.e. listening with a particular purpose needs to be nurtured. In addition, the importance of listening continues to grow as ideas are considered and viewpoints expressed. The range of speech genres that are learnt can be extended through engaging with life out of school as well as within it. For example, within school activities can include debates, schools councils or mock elections; beyond school, students can take part in raising money and running campaigns for good (charitable) causes.

The curriculum standards for this strand are as follows:

- 3.1 Distinguish between the different spoken needs of different situations, and know that style, register and tone change according to audience and need.
- 3.2 Develop the skill of talking in groups.
- 3.3 Evaluate the different politeness levels and etiquette in different speech situations.
- 3.4 Understand and interpret what they hear, processing it according to their particular purposes.
- 3.5 Transform what they hear into speech and/or writing and other modes.
- 3.6 Use different strategies to persuade other people.

- 3.7 Criticise in a constructive way and respond appropriately and in turn to being criticised.
- 3.8 Take notes while listening to a presentation or conversation
- 3.9 Identify conflicts and possible solutions in discussion.
- 3.10 Make elementary announcements.
- 3.11 Plan and deliver an elementary presentation, i.e. topic order, content and resources.
- 3.12 Control the rhythm, modulation and expression of their voice when reading poems aloud.
- 3.13 Understand the purpose and organisation of a conventional debate.

4. Knowledge about Language and Communication

This stage shows increasing awareness of language, and a concomitant increase in vocabulary to talk about language. While discussion about language and other forms of communication will continue to arise naturally from the use of language, there are opportunities for more formal attention to how language works in short periods of the language and communication curriculum. It is at this stage that knowledge about language increases in importance. The meta-languages for communication should be used more frequently in class to raise awareness

The curriculum standards for this strand are as follows:

- 4.1 Understand conventional vocabularies for elementary, useful and functional grammars in speech, writing and other productive modes.
- 4.2 Talk about reading and listening with accuracy and insight.
- 4.3 Reflect consistently about the functioning of spelling and punctuation.
- 4.4 Identify information and information sources to answer specific questions, with special reference to the internet.
- 4.5 Use key words to find information and predict the content of a text electronically.
- 4.6 Include bibliographic references in their texts.
- 4.7 Understand and appreciate different cultural expressions in Europe.

5. Language and Communication Dispositions

These dispositions are persistent qualities associated with language and communication.

The curriculum standards for this strand are as follows:

- 5.1 Develop an interest in learning and express this through asking questions, listening and observing.
- 5.2 Value self-authorship and develop a confidence as an author and speaker.
- 5.3 Consider the consequences of their own words and actions for themselves and for others.
- 5.4 Understand the potentiality of, and use language appropriately for, conflict resolution.
- 5.5 Understand the importance of information conservation and develop the skills to retrieve information.
- 5.6 Understand and promote the importance of equal opportunities between men and women.

- 5.7 Respect racial and ethnic differences, and recognize the value of diversity, in communicating with others.
- 5.8 Understand the usefulness of written and spoken codes for communicating and organising ideas.
- 5.9 Demonstrate an increased competence in the use of the separate modes of communication by consciously combining modes in composition.
- 5.10 Value the linguistic and cultural richness of Europe and other parts of the world.
- 5.11 Develop a positive self-concept as a reader, writer, speaker or listener; a desire and tendency to read, write, speak or listen; and an enjoyment of or interest in reading, writing, speaking and listening.

2.2.3: Language and Communication Curriculum Standards for S6-S7

The period of secondary education is crucial for extending the range and experience of young people's use of language; and for understanding and using communication as an integral part of a wide set of social practices. To these ends, the standards for these years must be high and must be comparable with those set internationally. Young people going through the secondary school system should be equipped with the linguistic, communicative and social skills to enable them to contribute positively and effectively to their society, and also to the international world. In particular, the standards for these years include requirements for students to:

1. Be able to read and write sufficiently well to engage in social practices and to express themselves individually;
2. Contribute creatively to discussions, debates and other forms of spoken interchange in school, family and society;
3. Know about how language and other modes of communication work, and to be able to reflect on these processes;
4. Develop the communicative skills necessary to become an effective citizen.

The advances made in this stage will equip students for two principal future purposes: public examinations on the one hand, and the wider world of social obligation, citizenship and the world of work on the other. A widening repertoire of spoken, written and other genres, plus multimodal combinations, will enable students to feel empowered and responsible in society. The added dimensions of composition and interpretation in modes other than writing, reading, speaking and listening, along with increased knowledge about language, will prepare students for life in the twenty-first century.

Reading covers both fictional and documentary types of text. It is closely allied to writing, reading aloud (speaking), speaking and listening. The links between text and image are emphasized, and written texts should be used to allow talk about experiences and feelings as well as about language. It includes knowledge, skill and dispositional elements. There will be an increasing emphasis on documentary texts to complement the reading of fiction, poetry and play-scripts. Documentary material includes information texts, maps, guides, menus and other 'real world' texts.

Reading should continue to broaden its range to include classical and historical literary works in national traditions. It should also extend to a wider range of 'real world' documentary texts, such as minutes of meetings, reports, opinion pieces and newspaper

articles. Reading matter further extends to include magazines, newspapers, online media (if available), poetry, play scripts, and popular as well as classical fiction. There could be much variety in the way reading is introduced and taught, including formal exposition in class, small group exploration of texts, contribution to wiki-like texts online, reading for information, and reading for other purposes, like searching for evidence in support of an argument.

Writing is important to encourage as a means of communication. It is best linked to reading (so that they are seen as reciprocal), speech and other modes of communication (particularly the visual). Students will explore more specialized texts during this phase, and use writing to reflect more deeply on matters that arise from social experience and from their reading of literary and documentary texts. During this phase, there is the opportunity to embrace the written world of discourse as manifested in all aspects of society. For example, students should be exposed to the role writing plays in the creation of scripts for performance on TV, radio, film and in the theatre, as well as in public forums. They should be taught advanced word-processing skills in order to improve their capacities as writers of a wide range of texts.

Speaking is a natural part of communication and can be used for learning in pairs, small groups and in larger gatherings. It is a way of expressing feelings and thoughts in a number of different genres, and is linked to writing and reading. It is closely allied to listening. The role of speaking in secondary education and beyond must continue to be significant. Its value is that it reflects more sensitively than writing the range of regional and local diversity in the society. It is also a direct way of exploring, understanding and resolving (if necessary) difference. A wide range of spoken encounters is possible, even within school. For example, school events can be arranged and assisted by students who take responsibility for certain aspects. Campaigns and other forms of advocacy and persuasion can be encouraged.

Speech can be used as a rehearsal for writing or a follow-up to it; or as part of a multimodal composition like a play or film. Occasions could be made possible in the classroom where listening is the prime activity. Transmutation of heard texts into writing, speech or other modes of communication can arise directly from listening activities. Listening can also be a part of multimodal communication, as in a film, TV programme, or advertisement. Sound in general – as in sound effects, or ambient sound – can contribute to the overall communicative experience of art forms and other forms of communication. They will wish to develop their own identities through spoken interaction with others: family, friends, those in authority and others. They will do this with the understanding that opposition is natural and can help clarify one's own position; but that speech is also a conduit through which resolution and consensus can be built. Listening at this stage takes on an obligation as a citizen: to listen carefully to views put forward, to reflect on them, and to respond accordingly. Listening can also play a role in the reception and enjoyment of literary texts; and it is integral to radio, film, television and other media.

As the modes of communication separate themselves from each other, there is more scope for a considered application of more than one mode in acts of communication. At the same time, the particular qualities and affordances of each mode become clearer. To understand that more permanent modes of recording, like digital archiving (if available), writing, print, drawing and other forms of composing, can be seen as more permanent forms of communication than temporary and ephemeral forms like speech, gesture and movement,

is an important insight to develop. Examples of working multimodally include: the making of a short film; the creation of storyboards for sequential narration; the creation of stories, advertisements and other genres in sound; the editing and mixing of soundtracks; and the creation of performances and presentations.

This stage shows increasing awareness of language, and a concomitant increase in vocabulary to talk about language. While discussion about language and other forms of communication will continue to arise naturally from the use of language, there are opportunities for more formal attention to how language works in short periods of the language and communication curriculum. This stage reveals increasing knowledge about language so that students can talk or write about language use with insight, using it not only for its own sake, but also in order to improve their own language and communication skills. And finally, there are a series of dispositions which are persistent qualities associated with language and communication. In addition, it is important to develop and implement a cross-curricular language and communication programme. This has three elements: trilingual provision, use of digital technologies, and developing communication skills.

The years of secondary education are crucial for extending the range and experience of young people's use of language; and for understanding and using communication as an integral part of a wide set of social practices. To these ends, the standards for these years must be high and must be comparable with those set internationally. Young people going through the secondary school system should be equipped with the linguistic, communicative and social skills to enable them to contribute positively and effectively to European society, and also to the international world.

What follows is an example of what these standards at S6-S7 might be in the strand of language and communication and in the domain of the first key competency, *Communication in the Mother Tongue*. They are grouped under six headings:

1. Reading
2. Writing
3. Speaking and Listening
4. Multi-modality
5. Knowledge about Language and Communication
6. Language and Communication Dispositions

1. Reading

The curriculum standards for this strand are as follows:

- 1.1 Identify the role of power relations in language and communication, and how those relations can affect the nature of a written text.
- 1.2 Use the different types of media to understand contemporary developments in Europe and the world.
- 1.3 Understand, analyse and appreciate the language of different literary genres, i.e. authors, periods and cultures.
- 1.4 Read, interpret and appreciate the aesthetic value of narrative, poetic and dramatic texts.

- 1.5 Recognize characters and recurrent events in the myths of different peoples and identify the values that are attached to them.
- 1.6 Understand the purposes and characteristics of informational texts.
- 1.7 Compare and contrast the different ways in which the same piece of news is presented in different media, and read such media in a critical fashion.
- 1.8 Understand and explain the different characteristics of facts and opinions.
- 1.9 Identify the formats and functions of different administrative and legal documents.
- 1.10 Read and reflect on documents that establish rights and obligations.
- 1.11 Read, interpret and enjoy a range of poetry, both of European origin and of other countries in the world.
- 1.12 Analyse and assess some effects of advertising.
- 1.13 Use the printed and electronic media available to them to obtain and select information for specific purposes.
- 1.14 Understand the function of punctuation forms, and explain how they are used in a variety of written texts.
- 1.15 Understand the role and function of uppercase and lowercase conventions in written texts and know how to use them in reading.
- 1.16 Identify the form and function of different parts of speech in reading, i.e. nouns, verbs, adjectives, adverbs, prepositions, conjunctions and interjections.
- 1.17 Understand and use different reference sources in reading a range of texts.

2. Writing

The curriculum standards for this strand are as follows:

- 2.1 Identify the role of power relations in language and communication, and how those relations impact on writing texts.
- 2.2 Generate, shape, edit and re-frame written texts to suit a wide range of purposes.
- 2.3 Produce texts in a variety of modes, i.e. handwriting, word-processing and graphically.
- 2.4 Use language forms in an imaginative, free and personal way to reconstruct their own experiences and to create fictional works.
- 2.5 Write a script for a play with the appropriate characteristics.
- 2.6 Write a formal letter using the correct format.
- 2.7 Write a review of a book.
- 2.8 Write a short story, taking account of plot, its consistency, the characters and the setting.
- 2.9 Invent a possible dialogue, in the form of a short scene in a play, using the conventional format.
- 2.10 Write a report on an experiment, using the appropriate vocabulary and technical resources.
- 2.11 Write an autobiographical text, using the appropriate conventions.
- 2.12 Use conventional punctuation forms in a variety of written texts.
- 2.13 Use subordinate, compound and complex sentences in writing texts.
- 2.14 Use upper and lower case correctly in writing texts.
- 2.15 Use the different parts of speech, i.e. nouns, verbs, adjectives, adverbs, prepositions, conjunctions and interjections, correctly in writing.

- 2.16 Correctly spell words in a conventional sense, and use a spell-check if word-processing.
- 2.17 Understand and use in writing conventional referencing devices.
- 2.18 Use the linguistic resources that express temporality, causality and simultaneity, appropriately in writing.

3. Speaking and Listening

The curriculum standards for this strand are as follows:

- 3.1 Express and defend their opinions and beliefs in a reasoned manner, and use dialogue as a privileged way of resolving conflicts.
- 3.2 Use a wide range of spoken genres, from informal exchanges to formal speeches and responses.
- 3.3 Present the results of investigations they undertake.
- 3.4 Express their interpretations of, and their emotional responses to, the stories and poems that they read or write.
- 3.5 Present information on specific topics, integrating meaningful explanations and descriptions.
- 3.6 Ask relevant questions when taking part in debates.
- 3.7 Express their opinions in debates and defend their position, providing relevant data or facts to support them.
- 3.8 Listen to public debates in different media and analyse the different discursive strategies used by the participants to convince or to present an opinion about a subject.
- 3.9 Develop the skill of listening with concentration, empathy and understanding to scripts, stories, poems and other fictional works; and also to speeches, discussions and debates, expositions and other documentary speech forms.

4. Multi-modality

The curriculum standards for this strand are as follows:

Understand the affordances of the various modes, and be aware of new modes of communication as they appear.

Develop a sense of the economies of communication, as in the choices people make when they communicate, and the consequences.

Develop a competence in multimodal composing, by combining word, image and sound.

Be adept at shifting from mode to mode if the purpose of their communication requires such changes.

In order to become well-rounded communicators and citizens, acquire a capacity to communicate effectively in a wide range of forms (and combination of forms).

5. Knowledge about Language and Communication

The curriculum standards for this strand are as follows:

- 5.1 Understand that language and communication can be organised in a variety of ways.

- 5.2 Understand that different disciplines and fields of operation in the world have different vocabularies and grammatical/semantic rules.
- 5.3 Be disposed to find out more about language and communication with an enthusiasm and interest in them.
- 5.4 Use scientific materials, specialised dictionaries, the internet and encyclopaedias, both printed and digital, to support learning and to write informational texts.
- 5.5 Reflect on the role of literature in transmitting the cultural values of a nation and the European Union.
- 5.6 Identify how discrimination develops, and in particular, how it relates to the way people speak, and strategies for remediating it.
- 5.7 Understand the effects of writing on language stabilization.
- 5.8 Understand the importance of speaking and writing in more than one language.
- 5.9 Reflect on the relationship between literature and the social and historical context of its production.
- 5.10 Reflect on the changes that occur in language and peoples over time.
- 5.11 Understand the influence and importance of indigenous languages or other languages than their own.
- 5.12 Understand the balance and relations between a standard spoken language as used in their own country, and regional and local variations.

6. Language and Communication Dispositions

These dispositions are persistent qualities associated with language and communication.

The curriculum standards for this strand are as follows:

- 6.1 Develop an interest in learning and express this through asking questions, listening and observing.
- 6.2 Value self-authorship and develop a confidence as an author and speaker.
- 6.3 Consider the consequences of their own words and actions for themselves and for others.
- 6.4 Understand the potentiality of, and use language appropriately for, conflict resolution.
- 6.5 Understand the importance of information conservation and develop the skills to retrieve information.
- 6.6 Understand and promote the importance of equal opportunities between men and women.
- 6.7 Respect racial and ethnic differences, and recognize the value of diversity, in communicating with others.
- 6.8 Understand the usefulness of written and spoken codes for communicating and organising ideas.
- 6.9 Value the linguistic and cultural richness of Europe and other parts of the world.
- 6.10 Develop a positive self-concept as a reader, writer, speaker or listener; a desire and tendency to read, write, speak or listen; and an enjoyment of or interest in reading, writing, speaking and listening.

This analysis of the first competency should be understood as illustrative only, and not be treated as its definitive expression.

3. The Essential Components of a Curriculum

The development of a curriculum therefore requires a number of sequential steps:

1. The aims and objectives or competences of the educational programme need to be set out and from these are derived the essential forms of knowledge, skills and dispositions which a school system considers to be appropriate for living in the society as it is now and as its stakeholders would like it to be.
2. From these aims and objectives, a set of subject areas are derived and a set of relations between those subject areas are established. For example, Language, Literature, Mathematics, Physics, Biology, Chemistry, Foreign Language, Physical Education, History, Geography, Sociology, Art, Music and Drama. This is an example of strong boundaries between different subjects. An example of weak boundaries between different subjects is as follows: Language Studies, Science, Mathematics, Humanities, Arts, Physical Education and Foreign Languages. Various models of curriculum integration can be identified and these range from traditional or fragmented approaches to networked approaches to curriculum planning (see chapter five).
3. From these aims and objectives and bearing in mind the decisions made about curriculum subjects and their integration, curriculum standards are derived. These should be written in such a way as to indicate to the learner and the teacher what the learner is required to know or be able to do, or have the disposition for, at the end of the programme of learning.
4. The next stage is to identify the most appropriate processes for the delivery of these curriculum standards. This is the identification of the pedagogic standards, and it involves choosing between a variety of teaching and learning approaches. The areas that choices have to be made about are: the type of relationship between the teacher and the students, the type of learning approach that underpins the work of the teacher, the resources and technologies needed to allow that learning to take place, formative feedback mechanisms by the teacher, how learners are arranged in the classroom and the school, timings of different activities during the lesson, the tasks that the learners are expected to complete, formative learning approaches (including assessment for learning approaches), and how the learning can be transferred to other environments. The important point to note here is that the pedagogic approach is derived from the curriculum standard and not from any summative assessment arrangement.
5. The final stage is the development of summative assessment or evaluation arrangements as in the European Baccalaureate. These are derived from the curriculum standards, which in turn were derived from the aims and objectives of the whole programme. They should not be confused with formative assessment processes, as they are constructed in different ways and have different purposes. It is important that any systemic evaluative or assessment process should not impact in any direct way on the learning processes that take place in classrooms.

4. Recommendations

1. The curriculum as advocated by the European Parliament and Council should be clarified and extended, especially with regards to the key competences.
2. Pedagogies and pedagogic standards are derived from curriculum standards. These curriculum standards (derived in turn from the eight competences) are not the same as pedagogic approaches (those arrangements in schools we make to allow learning to take place, and this includes formative processes of assessment).
3. Assessment/evaluative standards, expressed in the European Baccalaureate (how we evaluate whether those curriculum standards have been met at the end of the programme of learning) are derived from the curriculum standards, which in turn are derived from the eight key competences. What this means is that the foundations of any curriculum are those curriculum standards which the European system of schooling has decided are the most appropriate forms of knowledge, skills and dispositions for learning in schools, and not teaching or assessment approaches. Teaching, learning and assessment approaches derive their credibility from these curriculum standards. It is therefore important that the curriculum standard is not compromised in any way by whether it can or cannot be used as a testable construct or teaching approach.
4. These curriculum standards should be expressed at a level of comprehensibility so that teachers, parents and students are able to access them.
5. Teachers should undergo training programmes (pre-service and in-service) to deliver this new curriculum and its component parts.
6. The European Baccalaureate needs to be adjusted to accommodate these new curricular arrangements and to fit the demands of university and college entry procedures and their programmes of study.

3. The Key Competency of Communication in Foreign Languages

3.1 Introduction

Language is the factor that best explains the genesis and evolution of the system. The Schools were founded with a particular and specific purpose in mind. Civil servants arriving in Luxembourg in 1953 wanted their children to retain their own cultural heritage. This was achieved by creating a system where the different children could learn in their mother tongue following the same standards as in their country of origin. In that sense the history of the system illustrates that the principle that governs European Schools is language pluralism, not assimilation.

Three '*langues véhiculaires*' have a special status: French, German and English. Students have to choose between one of these when they enter the first year of the primary school, and they will keep their *langue véhiculaire* (L2) until the Baccalaureate. L2 will not be only a 'language' course, it will become the second working language of each student, since it is compulsory that students attend History and Geography classes in the L2 they choose on entry, plus Economics from S4 if chosen as an option and, since September 2014, religion or ethics from S3.

The status of these 'working languages' is a source of academic debate. Swan (1996, p. 13), for example, argues that 'France, Britain and Germany already have their own network of *Auslandsschulen* or "schools abroad", which offer their own nationals, at least in Brussels, an alternative, if often expensive, source of education in their mother tongue. But some of the smaller, as well as the more peripheral Member States provide no such alternative'. Swan's argument consists in defending the idea that the languages that are getting more benefit from the language policy of European Schools are precisely the ones that are not *véhiculaires*. Indeed, the fact that European Schools aim ideally to offer language sections in all the languages spoken throughout the European Union, though this can only be realised by clusters of schools, offers the chance to the parents coming from all the Member States to enrol their children in their 'language section', without depending on the setting up of a 'Polish school' or a 'Spanish school' in Brussels. Yet, the offer in terms of diversity is much more limited in practice than in theory. Not all European Schools include all the language sections for all official languages of the European Union.

This has created the need to integrate those students who do not have their own language section. Such group are called 'SWALS' (Students Without a Language Section). SWALS have to attend one of the language sections available, while receiving a separate programme in their mother tongue. The difference is that at primary and secondary levels they only receive one class in their mother tongue, the rest of the courses being taught in the language of the section into which they have chosen to integrate.

Shore and Finaldi (2005, p. 31) have argued in favour of the language policy of the schools. In their study, they suggest that

(...) although officially portrayed as a matter of language development strategies, perhaps the most noteworthy aspect of this [language policy] is that the teacher will hardly ever share the same nationality with his/her students. At the heart of this decision seems to be an explicit attempt to separate nationality from the teaching of sensitive subjects such as History [or Geography].

SWALS, however, would only ever be taught L1 by a teacher from their own country. Increasingly, students are taught by teachers from a range of nationalities, as more subjects are taught in L2 and since the acceptance of non-native teachers. Generally however, it should be recalled that the first principle of the European Schools is primacy of mother tongue teaching and the system is built on the secondment of teachers from national systems so that in most sections (certainly the non-vehicular sections), teachers of core subjects do share the same nationality as their students. Swan (op.cit.) has also looked at the use of the *langues véhiculaires* as an integral part of the linguistic structure. He suggests that 'teaching History to non-compatriots may well compel the teachers to question assumptions which never needed questioning on home ground, in order to ensure that the standpoint taken is free of national bias' (Swan, 1996, pp. 51-2).

Quoting one of the teachers, Shore and Finaldi (op.cit. p. 31) illustrate how the requirement of teaching students from different nationalities has contributed to changing teaching methods:

You try to include various elements of the history of each nation in your courses, including particular key moments, so that nobody feels left out... I guess the other thing we do is implementing a holistic European point of view rather than a national one. One other thing; we try to select themes or topics which are appropriate to the topics of the ES, and that have a European dimension.

Yet, when examining the textbooks used in European Schools this need to develop a 'European' sensitivity is more a matter of the teacher than the tools available. Textbooks are the same ones that are used in 'national' systems. In that sense it is up to the teachers to develop some type of 'ought to be' approach when teaching history and geography from a transnational perspective:

This "it ought to be" is something genuinely felt by teachers, but it remains, nonetheless, a slogan that has to be interpreted and put into practice. It is quite clear to the teachers that they are reducing, rather than developing and extending, the premises from which they start. What they seem to be saying is that it is not just about teaching British history in a European context, or including a bit of history from all the countries currently in the EU (Shore and Finaldi, 2005, p. 32).

One of the main criticisms regarding the language policy in the Schools was presented by Finaldi-Baratieri (2000), after spending seven months studying and visiting different centres. Finaldi-Baratieri pointed out how the principle of 'equality of esteem' between different languages is more difficult to achieve in practical terms than in theory. In her view, the policy of *langues véhiculaires* illustrates how European schools can be more 'nationalistic' than the official discourse would allow:

This policy evidences how languages reflect in themselves the different cultural, political and economic power of various nations. Significant in this sense is that while English was adopted by the European Schools before the UK joined the Union, Spanish, a similar world-widespread language has not acquired the status of 'langue véhiculaire' even after Spain joined the Union [...]. Certainly financial limitations are of fundamental importance, but in having to make a selection the School had to choose their parameters (Finaldi-Baratieri, 2000, p. 27).

More interestingly, she argues that the working language policy testifies to, at the micro-level, the force and power exerted by the EU's 'core' Member States. 'This tendency is very important in shedding light on the dynamics of power which maintains the extent of pluralism present in these Schools, otherwise presented by these institutions as the harmonious outcome of a "United Europe"' (Finaldi-Baratieri, 2000, pp. 28-29).

Indeed, the system is imperfect when implementing the 'theoretical' equality of esteem between languages. Behind the plurality offered, the reality is much more constrained and limited. And yet, despite the imperfect translation into practice of the theoretical principle as the basis of the multilingual policy of the schools, the educational offer in terms of language diversity remains higher than the offer in the rest of the educational systems in Europe. Despite these problems, the language policy still illustrates something unique: the political will to expand the system to all European languages.

3.2 A Plurilingual Model

The purpose of this section is two-fold: first, to review findings from research into bilingual, trilingual, multilingual or plurilingual education, and second, to draw out reference points for a review of European Schools' documents in order to support the European Schools in enhancing student language learning and learning through languages.

Bilingual and trilingual programmes (often referred to as immersion) promote bi- and tri-literacy. In addition to competence in speaking and listening, bi- and tri-literacy includes competence in reading and writing the native language, and a second or a third language. This is accomplished both by teaching each language in language classes, and by teaching other subjects such as History and Science through each language. Thus, these programmes are a form of content-based instruction that aims to maintain an on-going dual focus on both content and language learning. Maintaining this dual focus on content and language is a challenge for many educators and education systems.

Bilingual and trilingual education programmes support 'additive bilingualism' or additive trilingualism, a process whereby students acquire an L2 (and possibly an L3) while also maintaining and developing their L1 (Lambert, 1975). Bilingual programmes serve both students who speak the majority language of a community as an L1 (e.g. Finnish-speaking students in Swedish-Finnish immersion) or they can serve students who speak a minority language and are schooled in both that minority language and the community's majority language (e.g. Spanish-speaking students in the United States in Spanish-English immersion). Trilingual programmes serve students who speak a majority language, and who study some content subjects such as Business or Mathematics through an L2 and/or L3 (e.g. English-speaking students in an English-speaking community in Montreal who study in French-Hebrew-English immersion). However, with increased cross-border

migration of peoples of diverse ethnic backgrounds, drawing distinctions about who is being served by these programmes is becoming more difficult. For example, in English-speaking Toronto, Canada, a large percentage and sometimes the majority of students in French-English immersion speak an L1 that is neither English nor French. More research is required, but it appears that these 'immigrant' students are generally speaking successful in immersion programmes despite the fact that few provisions are being made in the school system for supporting their L1 development.

The primary goals of bilingual and/or trilingual education are to foster:

- Age-appropriate levels of L1 competence in reading, writing, speaking, and listening, as defined in the Common European Framework of Reference for Languages (CEFR);
- Advanced levels of functional proficiency in L2 reading, writing, speaking and listening, as defined in the Common European Framework of Reference for Languages (CEFR);
- Advanced levels of functional proficiency in L3 reading, writing, speaking and listening, as defined in the Common European Framework of Reference for Languages (CEFR);
- In addition to achievement of language learning goals, grade-appropriate levels of academic achievement in other school subjects, such as Mathematics and Science;
- An understanding and appreciation of the culture of the L1 group, and of the L2 and/or L3 group(s).

If one were to accept that plurilingual individuals 'use languages for the purposes of communication and to take part in intercultural action where a person, viewed as a social agent, [...] has [...] experience of several cultures' (Council of Europe, 2011), it is logical for bilingual, trilingual and plurilingual schools to foster among students the habit of and interest in intercultural dialogue. (See also European Framework for Key Competences for Lifelong Learning.)

All of the above goals have substantial curricular implications. Curriculum developers need to operationalise these goals by developing related measurable targets and by providing direction in how they can be achieved. Educators and learners need to work systematically towards the achievement of targets, while programme evaluators need to use targets as benchmarks in order to evaluate programme achievements. Furthermore, goals of the nature described above have implications for programme leaders, managers and for stakeholder professional development.

3.3 Effective Plurilingual Programmes

The following section is based both on research and advice from leading practitioners in the field about the characteristics of effective plurilingual programmes. From the limited evidence we have collected about the implementation of language policies in the European schools, it is possible to suggest that these criteria for effective language programmes were only being partially met. Central to effective programmes are:

- *Knowledgeable and supportive leadership at the school level.* Effective leadership includes administrative and principal support, as well as instructional leadership, and the capacity to explain, and advocate for the programme (Lindholm-Leary, 2001).
- *High expectations and a high level of commitment.* In particular, programme leaders need to be wholeheartedly committed to bilingual education, and ensure that their schools adopt 'rigorous' and 'challenging standards in all curriculum domains' (Cloud et al., 2000; see also Met and Lorenz, 1997).
- *Support of central authorities and frequent communications with schools* (Howard, 2007; Mehisto, 2012). This communication needs to be two-way so that, in the case of the European School system, the Inspectors are well informed of school needs.
- *Well-defined purpose, goals, standards and plans pertaining to content and language.* Cloud et al. (2000) argue that these must all be '(a) understood, (b) accepted, and (c) implemented in a coherent fashion by all educational and support personnel'. This calls for user-friendly policies and plans with measurable targets that integrate issues pertaining to language learning and learning through languages. These policies and plans also define related stakeholder responsibilities. For example assessment policies would need to articulate aspects unique to bi- and tri-lingual education such as content teachers (a key stakeholder in language learning) providing feedback on students' language development.
- *Qualified bilingual teachers and preferably also school leaders and other support staff.* Teachers need to understand students who do not speak the language of instruction well. All educators need to understand the specificities of working in a bi-/tri-lingual education context (Fortune and Tedick, 2014).
- *Ongoing professional development which supports student achievement of curricular goals* (including content and language learning).
- *A focus on whole school cohesion.* Effective multilingual schools avoid staff divisions along linguistic lines, and ensure all staff support the achievement of key goals including the learning of all languages of instruction (Banfi and Rettaroli, 2008).
- *Cooperation with stakeholders including parents.* It is important that stakeholders understand the goals, rationale and characteristics of/for effective programmes, and understand how they can support programme implementation (Montecel and Cortez, 2002). Stakeholders also need to understand how their beliefs and behaviours can affect student achievement (Lindholm-Leary, 2001).
- *According all media of instruction high status* (Howard et al., 2007). It is central that all stakeholders understand how their beliefs, actions, and language use influence the status of each language of instruction. The status of a language is likely to have a direct impact on students' motivation to learn it.

3.4 Language Pedagogy

One of the primary tenets of bilingual education is that it does not simply involve changing the language of instruction. Teaching and learning practices need to change. It is noteworthy that certain teaching and learning practices tend to have a greater impact on student achievement than others (Hattie, 2012; Marzano et al., 2003). Similarly, studies in bilingual education demonstrate that pedagogy plays a significant role. For example, Stevens (1983), who assessed student learning in a teacher-centred programme against a student-centred late immersion programme in Montreal, found that substantially more language can be learned in substantially fewer contact hours in a student-centred

programme. In the student-centred programme students chose their own areas of study from within prescribed themes; sought out information to do project work; presented their work; used each other and the teacher as a resource; and had contact and communication with native speakers of the L2.

Some additional teaching and learning practices considered to foster the concurrent learning of content and language include:

- *Language sensitive teaching.* This involves the setting of both content and language objectives in content classes, and having students analyse progress in achieving these objectives, taking into account the heterogeneity of language proficiency in the European Schools and within a class. It also involves the concurrent scaffolding of content and language, and the systematic and the ongoing teaching of academic language by all the teachers (Echevarria et al., 2006). Scaffolding of both content and language helps ensure cognitive load is managed in particular when students are learning and using challenging concepts in their L2 or L3. It is noteworthy, however, that content teachers on several continents have difficulty assuming the dual role of teaching both content and language (Mehisto, 2008), while language teachers often find it challenging to use a content-based approach.
- *The on-going teaching of academic language.* There is a strong correlation between student achievement and having a good command of language, in particular academic language. Academic language is the language required for success in academic environments. This includes the language needed for learning and imparting new skills and knowledge, and for discussing abstract ideas and building conceptual understanding (Chamot and O'Malley, 1996). Hu and Nation (2000) argue that academic language consists of 8,000–9,000 word families (e.g. skill + skilfully, skilled unskilled) and students often need to know 98% of vocabulary in a complex text to understand it. However, academic language consists of much more than subject-specific terminology and words. It also has a particular tone, often refers to some form of evidence, and uses categories and concepts. It is often decontextualised. It includes phraseology, lexical bundles/chunks, collocations (common word combinations), and follows certain grammatical conventions. Many content teachers in the European Schools system are not adept at drawing out for students the characteristics and elements of academic language, nor are they trained in scaffolding its learning.
- *Rich opportunities for meaningful student output.* The exploration of meaningful content is a key driver for language learning whereas simply using content as a carrier for language teaching is generally thought to be, comparatively speaking, much less effective (Brinton et al., 2011). Moreover, it is central that students have rich opportunities to actively explore and use language. This requires communication awareness and a shift in classroom practice away from the dominant use of teacher presentational talk and the teacher question-student response-teacher feedback pattern towards a more dialogic approach that fosters deep-order student engagement through exploratory talk and peer co-operative work (Mercer and Dawes, 2008).
- *Assessment as and for learning of both content and language, and shared accountability for content and language learning.* Assessment in bi-/tri-lingual education contexts differs from language assessment in a traditional school programme. For example, there is a tendency for students' L2 and L3 language

development to slow down if content teachers do not assess language growth. Successful programmes foster the development of language learning skills and support students in assessing their progress in applying these strategies.

3.5 Language Policy

The European Schools language policy is embodied above all: in the principle of supporting L1 learning through the creation of language sections; in the provision of additional support for students without a language section; in having students study content subjects through their L2; and by offering L3, L4 and L5 language courses. However, there is no overarching language policy document that guides the co-construction of learning environments that foster bilingualism, trilingualism or multilingualism, though a vision on the use of language is expressed in the founding Convention and also in the Principles of the European Schools. A policy document of this nature has the potential to better focus the schools' attention on, and therefore support, language learning.

Recommendations, Rationale and Suggestions

Recommendation 1

The European Schools develop, through a stakeholder inclusive process, a language policy document in order to provide guidance on how the European Schools intend to meet their mission of providing 'a multilingual and multicultural education for nursery, primary and secondary level students'.

Rationale for Recommendation 1

The current European Schools' language learning policy is primarily expressed through: the principle of supporting L1 learning by the creation of language sections; the creation of appropriate provision for SWALS and the provision of additional support for these students; having students study content subjects through their L2 (possibly L3); and by offering L3, L4 and L5 language courses.

Language policy elements are to be found in numerous policy prescriptions (e.g. mission statement, General Rules of the European Schools, Provision of Educational Support in the European Schools – Procedural document, Reform of the European Schools System, Proposal of the 'Organisation of studies in the secondary cycle' Working Group, Control of the Level of Linguistic Competence as Part of the Procedure for Recruitment of Non-native Speaker Teaching and Educational Support Staff, Languages of tuition for Economics in the European Schools system, language and content subject syllabuses). Policy is also being developed in situ through the interpretation of existing policies (e.g. discussions of whether and in which school in Brussels an Estonian language section will be opened).

Despite the fact that language learning and intercultural communication are at the core of the European Schools ethos, there is no one place the European Schools' internal and external stakeholders can turn to for direction on how these key characteristics translate into practice. Moreover, a basic tenet of bi-/trilingual education is that the pedagogy changes in bi-/trilingual education contexts. Existing policy documents including curriculum

documents provide scant direction on how teaching and learning practices at the European Schools are expected to promote high degrees of language learning, or content and language learning whilst learning through a first and a second language.

It is important to note that students are likely to transfer L1 skills to their L2 and L3. The greater a student's L1 proficiency, the greater his or her meta-linguistic awareness, and the better his or her L1 language learning habits and skills, the more likely it is that this proficiency, metalinguistic awareness and these language learning habits and skills will support learning of the L2 and the L3 and through the L2 and L3.

Suggestions for Implementing Recommendation (1) on Language Policy

A language policy could include some or all of the following elements: an introduction or preamble; aims; connections to European School values and other policies; a description of the role of language learning (including for L1, L2 and L3); in-class and out-of-class language use; core pedagogical principles (e.g. all content and language teachers whether they teach through L1, L2 or L3 support both content and language learning); management implications; student support services; staff support services; staff professional development; student assessment; an explanation of how and when the policy will be reviewed; and a glossary of key terms (e.g. bilingualism, trilingualism, multilingualism, plurilingualism, multilingual teaching, multicultural education).

More specifically, for example, under core pedagogical principles, the policy might include some of the following points, which would constitute a common expectation for all teachers:

- The integration of content and language instruction;
- The concurrent articulation of clear, explicit and visible content and language learning objectives in all subjects, and the regular analysis of progress toward the achievement of these objectives;
- The co-construction of learning environments by teachers and students that are safe, supportive and engaging, and that encourage rich student output;
- The building of learner autonomy and responsibility;
- The use of assessment as a tool for learning language, content and general learning skills;
- The use of differentiation, including for enrichment, for students at various stages on their content and language learning pathways;
- The concurrent scaffolding of both content and language learning;
- The encouragement of critical thinking about content, language, and learning skills.

Under management implications, the proposed language policy might include some of the following points:

- The development of a common vision of bilingual, trilingual and/or multilingual and multicultural education by parents, students, teachers, and school principals who operate as a professional learning community;
- The articulation of high expectations by school principals, teachers, and students regarding content learning and bilingualism, trilingualism and/or multilingualism;

- The expectation that all teachers are teachers of both content and language, and that management practices (e.g. professional development, performance reviews) support teachers on assuming this dual role;
- The creation of mechanisms for encouraging language and content teachers to cooperate, and for teachers to cooperate across languages;
- The language needs of each student will be assessed in order to develop an individual learning pathway;
- The use of assessment for learning to support content and language learning in all classes including those taught through the L1.

Finally, how the policy is developed and approved will also be central to whether it will be well understood, accepted and implemented. It is suggested that the policy be developed through a stakeholder inclusive process with external advice from language education experts.

3.6 Language Objectives

Draft content subject syllabuses do not include explicit language objectives. Particularly for students who may be learning a content subject through their L2 or L3 this leaves the impression that language learning in content classes is seen as largely incidental. The lack of explicit language objectives implies that the European Schools are under utilising this key tool in language learning.

The objectives and assessment sections of English L2, French L2 and the German L2 language courses' syllabuses suggest that 'non-language' content is used above all as a carrier for language learning. This is likely to make language learning less efficient and meaningful. Ways in which language classes can support content learning particularly in content classes taught through the students' L2 could be strengthened. In addition the importance of culture is signalled as a high level aim of the European Schools, yet a review of L2 language courses syllabuses shows that there is also a certain disjunction between curriculum objectives and assessment, and the achievement of the high level aim related to culture.

Recommendations, Rationale and Suggestions

Recommendation 2

To integrate language objectives into curriculum documents for all content subjects whether these subjects are taught through the students' L1, L2 or L3.

It would be important for these language objectives to support:

- The development of language awareness (e.g. how language works, making explicit academic language);
- Communication awareness (e.g. understanding the systems that operate when people communicate, student's role);
- The learning of skills specific to language learning; and

- The skills, dispositions and knowledge required for effective intercultural communication.

Rationale for Recommendation 2

Language plays a crucial role in learning in general, and is a major focus of four of the key competencies defined in the European Framework for Key Competencies for Lifelong Learning:

1. Communication in the Mother Tongue;
2. Communication in Foreign Languages;
3. Learning to Learn;
4. Cultural Awareness and Expression.

Subject teachers carry the majority of the responsibility for helping students to learn and develop proficiency in using the academic language of their subject.

Language objectives are an important tool used in planning for and managing language learning (e.g. academic language; language learning skills; knowledge skills and attitudes needed for intercultural communication). It is easier to systematically scaffold student language and content learning if a teacher has a precise sense of what language and related skills are to be learned.

Language objectives focus on supporting students in noticing, using (e.g. analysing, discussing, applying) and learning the academic language that is embedded in recordings, texts and discussions about academic content. Language objectives are less focused on learning lists of vocabulary and more focused on specific language skills such as the correct use of the comparative, developing an argument, explaining a line of reasoning, using the passive voice correctly, or inquiring into a topic collaboratively. They are focused not just on the correct use of language, but on the development of language learning skills, communication awareness and intercultural communication.

Clear and concise language objectives explain to learners what is expected of them. If expectations are not clear, it is difficult for a student to plan his or her own learning. Clear and concise language objectives also help students build, assess and maintain their motivation to learn language. Current content courses syllabuses, including the new syllabuses such as the Geography Syllabus (4 period course Year 6/7) and ICTC Syllabus – S1 – S3 ICT, tend not to make language learning objectives explicit.

Suggestions for Implementing the Recommendation on Language Objectives

The following are possible actions that may support the implementation of the recommendation:

- Decide to make explicit (e.g. display on a board or the class's electronic learning space) language objectives in all content classes;
- Develop a plan for how the European Schools will institute this new policy and measure its success (nb. Content teachers, in particular at the secondary level, often resist assuming responsibility for both content and language learning in their classes

unless they are provided professional development in doing so, and ample opportunities to discuss the matter.);

- Review sample language objectives;
- Provide professional development to middle management and teachers in developing language objectives. Ideally, an outcome of this professional development would be a set of high-level/broad-based long-term language objectives per grade, as well as related language sub-skills objectives;
- Also provide professional development to content teachers in drawing out the characteristics and component parts of the language of their subject. This tends to be a major challenge for a large percentage of content teachers. The new Geography syllabus does draw out key words to be learnt, but this is only the tip of the iceberg in terms of the language of Geography that must be learned by students;
- Maintain attention (at the central and school levels) on creating an environment that supports teachers in making this major shift in practice – setting language objectives. The European Schools also need to measure progress in making this major shift and its impact on student learning. This will require keeping the implementation of this policy on the agenda at the central and school levels. It also invites co-operation amongst language and content teachers.

3.7 Content Enrichment: Recommendation, Rationale and Suggestions

Recommendations, Rationale and Suggestions

Recommendation 3

To revise secondary level L2 language curricula to ensure they integrate more substantive and meaningful content including cultural content.

Rationale for Recommendation 3

The English, French and German L2 secondary level language syllabuses, with the exception of the very short L2 French and English syllabuses, appear light on content and heavy on language learning. These syllabuses would benefit from the inclusion of more meaningful content topics that require greater critical thinking about both content and language. The more substantive nature of these topics would then need to be reflected in course objectives and assessment. By enriching the L2 language syllabuses, students would:

- Be exposed to a richer range of relevant language. This includes a richer variety of topics, vocabulary (including terminology and phraseology), tenses, registers and functions.
- Be called on to use a richer range of language. Working with content subject concepts in language class requires students to use a richer variety of language than would be the case in a standard language class.
- Likely find learning more meaningful, as students would be engaging simultaneously with interesting content and language which are new to them. If that content is used in meaningful ways, students are more likely to recall that language and content.

Content-rich instruction helps create links between ideas and language. Links create meaning and can, metaphorically speaking, be considered the 'glue' that fixes language and content learning into long-term memory.

- Be helped to learn the general academic language needed in several content subjects. The language associated with certain functions is common to many content subjects. These functions include: analysing, classifying, comparing, contrasting, explaining causes and consequences, evaluating, hypothesising, inquiring collaboratively, justifying, persuading, separating fact from opinion, solving problems, synthesising and verifying.
- Have increased motivation, confidence, and success. Students are better able to cope with learning content subjects through the L2 or L3 if they are helped to practise key skills in language classes that are required in most content subject classes.
- Have increased opportunities to think critically about both language and content. Content-based language instruction reinforces the expectation in language programmes that teachers and students think critically about both language and content learning. It helps avoid a situation noted by researchers where some language teachers focus primarily on the language being learned and avoid substantive analysis of the content used to carry the language. This avoidance of substantive analysis of content tends to undermine language learning and the development of critical thinking.

In addition, a review of secondary level English, French and German L2 language syllabuses demonstrate that these language classes could do more to help prepare students for those content subjects they are expected to study through their L2.

Finally, the importance of culture, and the mission of the European Schools to provide a broad multicultural education are signalled as high level aims of the European Schools, yet a review of L2 language courses syllabuses shows that there is a certain disjunction between curriculum objectives and assessment, and the achievement of those high level aims related to culture. Greater attention could be given to analysing several cultures at one time. In addition, culture and intercultural competences are not defined in language learning syllabuses. Some language learning syllabuses provide far more cultural elements for discussion and analysis than others (e.g. Finnish L4 versus English L2).

Suggestions for Implementing the Recommendation on Enrichment of Language Syllabuses

In order to enrich L2 language syllabuses, more content compatible with those subjects to be taught through the students' L2 and/or L3 could be integrated into L2 language classes. This would then need to be reflected in the content. The syllabuses could also better guide teachers in supporting students:

- In learning and using generic language needed for success across different subjects (phraseology and other formulaic sequences, collocations, connectives, phrasal verbs, tone and terminology needed for undertaking generic tasks);
- In undertaking generic tasks, which are common across the curriculum (e.g. comparing or contrasting texts; developing lines of reasoning; explaining causes and consequences; extracting a line of argument, point of view, or perspective from a text

or other media; holding debates; testing hypotheses; presenting examples and evidence; separating opinions from facts; synthesising).

In order to enhance the cultural, including the intercultural, component of the syllabuses the European Schools could consider:

Exploring diverse definitions of culture and intercultural competence;

- Agreeing on definitions;
- Drawing out more clearly objectives related to culture and intercultural competence;
- Providing professional development to teachers in integrating the teaching of culture. This can for instance include drawing on the following often interrelated categories – architecture, art (fine and applied), attitudes, beliefs, concepts of the universe, cuisine, customs, emigration, events, experience, famous people, film, hierarchies, history, immigration, knowledge, legislation, literature, material objects/artefacts, meanings, media, music, notions of time, politics, possessions, practices, public institutions, religion, rituals, role of nature, roles, sports, soap operas, social security, spatial relations, trends and values – in order to help students to engage with part of a given culture, and in order to compare and contrast cultures. At the same time, professional development could explore the reality that no cultural construct is likely to be a monolithic symbol embraced by all members of a language community, and that culture is dynamic and therefore constantly changing.
- Making explicit objectives related to intercultural competence. This could involve attitudes, skills and knowledge about the socio-cultural dimensions of language use in diverse cultures, and briefly describe ways in which intercultural competence can be assessed. In the knowledge domain, for example, students might be expected to explain and/or demonstrate: how culture and identity can influence communication and language use; why different forms of communication are important from a socio-cultural point of view in different cultural groups; and the socio-cultural characteristics of their own language environment and how they might differ from those of other language communities. In the attitudinal domain, students might be expected to explore: their own and other people's attitudes and prejudices regarding their own and other cultures; how open they are to other cultures and languages; how much importance they accord to the L1, L2, L3 and/or L4; and their willingness to engage with other cultures. In the skills domain, for example, students might be expected to demonstrate their capacity: to use strategies for communicating with someone from another culture and, especially, speakers of their L2 and L3; to modify their behaviour and language during interactions with speakers of other languages and, in particular, speakers of their L2 and L3; to recognise cultural perspectives, affinities and preferences expressed in authentic language materials; and to analyse and understand the norms of other cultural groups and, especially, those related to their L2 and L3.

3.8 Assessment

A review of various policy prescriptions leaves the impression that the European Schools are under-attending to aspects of assessment that are unique to bilingual/trilingual/multilingual education contexts. These aspects are largely not defined and as such may not be applied systematically in building learning environments. There is a need to revise assessment policies so that they better support language learning.

Recommendations, Rationale and Suggestions

Recommendation 4

To revisit assessment policies to ensure they support the language learning mission of the European schools, and in particular the use of assessment as a tool for language learning.

Rationale for Recommendation 4

One clear and highly laudable policy prescription, which is repeated in several documents, is that 'language competence should not be a factor in assessment, unless it creates a serious barrier to effective communication.' However, existing key documents include little or no discussion of how assessment in a bilingual/trilingual/multilingual school is unique or different to assessment in a primarily monolingual education context. This is the case, whether one reviews references to assessment in high-level documents such as the General Rules of the European Schools or references to assessment in old or new syllabuses for a given subject.

Furthermore, the General Rules of the European Schools state that students' results will be assessed on the basis of specifically defined learning objectives and competences for each subject. Since content subjects do not provide distinct language objectives this implies students may not be receiving feedback on language growth/development in content classes. As previously mentioned, this seems to imply that language learning in content classes taught through the host language is being considered as incidental, as opposed to something that is being systematically managed and supported.

In addition, these policy documents neglect assessment for/as learning. This implies that assessment for learning may be under utilised as a tool in language learning. Research indicates that there is a tendency for language learning in bilingual education contexts to level off or cease to progress in the later years of schooling unless teachers and students continue to pay attention to language learning in content classes.

Suggestions for Implementing the Recommendation on Assessment

It is suggested that an expert group identify those aspects of assessment that are unique to bilingual or trilingual education contexts. For example:

- Achievement of language objectives (pertaining to both language and communication awareness);
- Use of language for various purposes (e.g. academic, peer cooperative work);

- Use of all four language skills (listening, speaking, reading, writing), as well as multimodality, knowledge about language and communication, and language and communication dispositions;
- Ability to work with authentic materials, as well as with native and non-native speakers of the host language;
- Willingness to experiment with language and content;
- Current capacity to apply (not simply reformulate) knowledge gained through L1 in activities done through L2 (translanguaging);
- Development of intercultural competence (e.g. capacity to identify and summarise cultural points of view);
- On-going growth of language knowledge and skills (avoiding plateauing).

All of the above would not necessarily be assessed for a mark, but students would need feedback on all of them.

The process of identifying aspects of assessment unique to bi-/tri-/multilingual education would be followed by a review of existing policy prescriptions that refer to assessment. This work would need to be integrated with the development of language objectives for content classes (see Recommendation 2 in this section of the report).

In addition, it would be helpful to define in greater detail key principles of formative assessment such as ensuring that students are provided, on an individual basis, with concrete advice on how to move forward, and that assessment for learning can be considered successful only if it leads to changes in teaching practices and/or student learning practices, and ultimately to improved student achievement (content and language).

3.9 Pedagogy

Pedagogy, the art and science of teaching, holds a powerful key to the improvement of student learning, and is currently an under represented part of the discussion about the reorganisation of studies. Particularly, in a bilingual/trilingual/multilingual education context highly effective pedagogy can help to increase exponentially student learning of both content and language even for students who have been low achievers. Students have potentially much to gain from the European Schools increasing their focus on high quality teaching and student learning.

Recommendations, Rationale and Suggestions

Recommendation 5

To move the quality of teaching and in particular student learning to the top of the policy and meeting agendas in order to ensure that the multilingual and multicultural European Schools are first and foremost learning powered institutions.

Rationale for Recommendation 5

Extensive research in diverse educational settings including bilingual education contexts has shown that certain dispositions and strategies are particularly powerful in helping

students to achieve at a high level. For example, central to success for all types of students in bilingual education contexts is a belief by all educators that all students can succeed. Current high failure and drop out rates imply that many educators do not hold such a belief and/or lack knowledge of, or skill in applying, strategies which have a high positive impact on student learning of both content and language. (For a further discussion of this, see chapter five.) In addition, the failure and dropout rates vary across schools and language sections. For example, in French sections a much higher percentage of students fail and repeat a year than is the case in Finnish sections where there is more support and students rarely repeat a year.

Also, the General Rules of the European Schools state in the chapter on assessment that 'during the second semester [if] the teacher detects a definite risk of a student having to repeat the year, the Director shall be required to notify his/her legal representatives in writing in late April or early May at the latest.' This right to know about the risk is important, but more important would be the right for a student who is not meeting learning objectives to get timely advice and support in how he or she could meet those objectives. Students and teachers need a regular exchange of multi-directional feedback to address problems quickly so students can catch up with the majority of their classmates. Assessment-for-learning strategies appear to be neglected. The explicit teaching of general learning skills and learning skills specific to language learning are also considered to have a high positive effect size on student achievement. These are generally neglected in curriculum documents and other policy prescriptions.

Only fleeting mention is made of teaching methodology or other aspects of pedagogy in the minutes of the Working Group's 'Organisation of studies in the secondary cycle' or in the Proposal of the 'Organisation of studies in the secondary cycle' Working Group. The European Schools are showing clear concern for students in particular with regards to failure and drop-out rates, but the near absence of discussion about the quality of teaching seems to covertly place the responsibility for the drop out rates on the current organisation of studies and students, but not on teaching. Professional learning communities that are ultimately focused on improving students' learning tend to see high levels of student achievement for a broad range of students. Finally the previous four recommendations are also tied to issues of pedagogy, and suggest the need to move issues of pedagogy to the top of the policy agenda.

Suggestions for Implementing the Recommendation on Assessment

- Agree on a small number of core pedagogical principles (e.g. content and language integrated learning - CLIL, teaching learning skills, fostering learner autonomy and responsibility, assessment for learning, concurrent scaffolding of content and language, setting language objectives in content classes) that the schools will actively promote. Focusing on a limited number of goals can foster teacher autonomy, whilst also helping to support the adoption of under-utilised strategies. As a first step schools could take one or possibly two of these pedagogical principles and focus on this/these for a whole academic year. This priority would then be reflected throughout the system e.g. in school professional discourse, in professional

development, meetings, public relations, annual reviews, as well as student and parent surveys.

- Review the extent to which meeting time is devoted to discussing student learning as opposed to organisational or other issues.
- Review the benefits of refocusing attention on placing student learning at the forefront of policy and agendas. Part of this would include a review of the professional literature on influences on student learning and the literature on becoming a learning-powered school.

3.10 Language of Instruction

In a bi-/tri-/multilingual education environment that seeks to foster additive bi-/tri-/multilingualism, the language used to teach any given subject, as long as each language is used to teach some high status subjects, is a secondary issue when compared with the quality of teaching and learning practices. This applies even if students in the final (orientation) years who are making applications to universities choose otherwise. (In the increasingly globalised tertiary education market place, some students in the European School system may wish to align their language of tuition with the language/s of their destination Member State for university studies for reasons of meeting admission requirements and facilitating future success once in the undergraduate course of their choice.)

There is no subject that one could say with absolute certainty that it should be taught through the L2 or L3. Every subject being taught through L2 or L3 could be considered as having its own challenges and benefits. Any reorganisation of studies needs to ensure the best pedagogical practices are applied and that the needs of students studying through their L2, L3 or L4 are taken into account.

Recommendations, Rationale and Suggestions

Language Recommendation 6

To maintain in large part the status quo regarding choice of languages of instruction, but concomitantly to analyse the consequences of the current and planned requirements pertaining to the language(s) of instruction for student groups who have the same L1, for those who are studying in mixed language groups and for SWALS, so as to ensure that systems are in place to support students as needed.

Rationale for Language Recommendation 6

Recommendations 1–5 all highlight the need to ensure that whatever subject is taught through the L2, L3 or L4 the learning of language and through language is well-planned, supported and assessed.

By continuing to teach subjects (e.g. History and Geography) through a student's second/third language, students will in all likelihood attain substantially higher levels of

proficiency in these languages, and have more positive attitudes towards language learning than would be the case if the L2/L3 was/were only studied in language classes. Exceptionally, as previously discussed, we have recommended that the proposed religion and ethical studies courses be taught through the L1. In addition, due to the international nature of many businesses, and the need to build intercultural competence, we suggest there may be greater value to teaching Business Studies through the L2 than Economics.

It should be noted that teaching a subject through the L1 or L2/L3 does not mean that students are only allowed to use the designated medium of instruction for the given subject. Instead students can be encouraged to draw on all their languages to support their own learning. Although the designated medium of instruction would be the primary language of the classroom, a limited and judicious use of translanguaging (e.g. listening, reading and/or watching about a topic in one language, and discussing or writing about it in another) can be beneficial. A thoughtful use of translanguaging can help deepen understanding and ensure that students are exposed to the terminology, phraseology and other conventions of academic language in two or more languages.

In order to support learning through an L2/L3, it is essential a) that the status quo with regards to the teaching of modern foreign languages be maintained, b) that those languages be taught through the target language, and c) that the language classes be content based and support the learning of other subjects through those languages. The European Schools also need continue to teach the L3 beginning in S1.

In reference to mixed language groups (i.e. teaching and learning in Art, ICT, Music and Physical Education) decisions about pedagogy and which language or languages of instruction will be used for teaching and learning take on a particular importance. For example, it is possible for students in S1 to find themselves in a subject such as ICT that is being taught in their L3 whilst they are only beginning to study their L3. This begs the question as to what extent students' needs vary in mixed language groups due to language knowledge, and how learning is being scaffolded and differentiated individually for students who are learning through their L2 or L3. We are unaware of schools being provided any direction other than having English, French or German being prescribed as a medium of instruction for these subjects. In addition, we are unaware of how European Schools' teachers, teaching mixed language groups, are trained, and what expectations are placed on them regarding differentiation and 'multilingual education'. For example, will teachers teach through several languages or one language, encourage translanguaging, and allow for differentiation? A language policy (see language recommendation 1) could help to bring greater clarity to teaching and learning expectations in mixed language groups.

Despite the fact that the academic achievement of SWALS tends to be higher on average than that of students who are members of a language section language sections should be maintained. Language sections help students develop academic language proficiency in their native tongue and a deeper understanding of their own culture and identity. They reinforce an entire school's multicultural and multilingual ethos and build intercultural communication skills and dispositions. In addition, they assist with student mobility facilitating their integration back into their own national education systems. It is noteworthy that some parents may need support in understanding the nature of bi-/tri-/multilingualism and its related benefits including the value of having their children undertake part of their education through their L1. Finally, it is important that support structures for SWALS be

maintained, and particularly when these students are studying subjects through their L3 or L4.

Suggestions for Implementing the Language Recommendation on the Language of Instruction

The following are possible actions that may support the implementation of the recommendation:

- Take the above recommendation and rationale into account when developing a language policy document;
- Develop information materials to help parents and students understand the nature of bi-/tri-/plurilingualism and its related benefits;
- Define how the language or languages of instruction will be decided for mixed language groups;
- Provide professional development to teachers, in teaching students who are learning through their L2 and L3, in teaching through more than one language, in translanguaging and in differentiation, and in setting language and content objectives whilst ensuring that the professional development includes plenty of opportunities for teachers to discuss their beliefs and understandings;
- Undertake the early and on-going assessment of needs for students studying subjects through their host country language, and create a programme for addressing those needs;
- Help all students to become independent language learners (e.g. teaching language learning skills);
- Help develop and manage study groups and buddy systems, and through the use of interactive technology.

4. Pedagogy with Particular Reference to Science and Mathematics

4.1 Introduction

Both the system of European Schools and the process of widening access to the European Baccalaureate in the case of Accredited Schools are built on the idea that the whole system shares a common pedagogical ethos. The 'opening up' that we referred to in the Introduction is based on the idea that the notion of European schooling is a particular, exportable and replicable type of education. This principle is currently organised through a centralised system that gives the Board of Governors the authority to set, correct and adapt the common criteria of evaluation. Such criteria were established in 2005 and are updated periodically. This chapter will focus on those pedagogic standards that we referred to in chapter two.

On 9th and 10th February 2012 the Joint Teaching Committee, which is the institution with a mandate to oversee all the pedagogical issues of the European Schools system, adopted the following document: 'New structure for all syllabuses in the system of the European schools' (see Appendix One). This document illustrates the path that the European Schools are taking in terms of pedagogical development. It adopts a common structure for all the syllabuses. Each syllabus is divided into six sections: i) General Objectives of the European Schools; ii) Didactic Principles; iii) Learning Objectives; iv) Contents; v) Assessment; and vi) Annex.

With the exception of the first item, which includes the same information for all courses, the rest of the items are adapted to each course. With regards to the first item, the Joint Teaching Committee has adopted a common text that conveys the political and pedagogical vision of the system. The text specifies that the system has two objectives:

The European Schools have the two objectives of providing formal education and of encouraging students' personal development in a wider social and cultural context. Formal education involves the acquisition of competences – knowledge, skills and attitudes across a range of domains. Personal development takes place in a variety of spiritual, moral, social and cultural contexts (Board of Governors, Annex One).

This sentence makes implicit reference to the multicultural environment of the system. It might be assumed from that document that the Joint Teaching Committee considers that the existence of such a multicultural environment plays an essential role in order to fulfil the second pedagogical objective of the Schools. The crucial section of the document reads as follows:

The students of the European Schools are future citizens of Europe and the world. As such, they need a range of competences if they are to meet the challenges of a rapidly-changing world. In 2006 the European Council and European Parliament adopted a European Framework for Key Competences for Lifelong Learning. It identifies eight key competences which all individuals need for personal fulfilment and development, for active citizenship, for social inclusion and for employment: 1. Communication in the mother tongue;

2.Communication in foreign languages; 3.Mathematical competence and basic competences in science and technology; 4.Digital competence; 5.Learning to learn; 6.Social and civic competences; 7.Sense of initiative and entrepreneurship; and 8.Cultural awareness and expression. The European Schools' syllabuses seek to develop all of these key competences in the students (Board of Governors, Annex One).

Significantly, the pedagogical objectives of the European Schools are defined on the basis of the European Framework for Key Competences, as adopted by the European Institutions.

The new common structure in terms of pedagogy emphasises the will to connect the European Schools with the educational policy of the European Union. Such a change means de facto that European Schools are the first educational system across Europe to structure their curriculum in terms of the guidelines and the non-binding framework adopted at the European level. What is relevant to note here is that beyond such a debate, the simple decision to base the curriculum of the European Schools on the guidelines and priorities set by the European Union is already illustrative of a major development within the system.

The document of the Joint Teaching Committee makes official the link between the notion of 'European schooling', as developed by the European Schools, and the educational policy of the European Union. This is particularly noticeable in the introductory sentence of the document:

The underlying concept of this structure expresses a change from the contents-oriented syllabus to a competence-based syllabus. The structure of the syllabus is intentionally brief and precise (Board of Governors, Annex One).

Significantly, the Joint Teaching Committee adopts the vision of 'competence-based' education, which corresponds to the vision developed by the European Institutions for its educational policy.

The tendency to bring closer the pedagogical objectives of the European Schools with the European Union is also emphasised in the Alicante Declaration on European Schooling made by Interparents, in April 2012, in particular in point 14, where parents:

(a)sks that Member States' determination to invest in the development of quality education, youth and mobility, cultural and linguistic diversity, the European dimension and citizenship as well as a global perspective, Europe 2020-strategy and lifelong learning goals also apply to European Schools (Board of Governors, Annex One).

The Alicante declaration identifies directly those documents that are considered to be the bedrock of the educational agenda at the European level: the 2020-strategy and the concept of 'life-long learning'.

The strategy to bring the type of pedagogical curriculum offered at the European Schools closer to the educational policies set by the European institutions is also evident in the changes that were introduced for the European Baccalaureate. When the Board of Governors adopted the final report of the working group 'Reform of the European

Baccalaureate', it was agreed that the marking/grading criteria would be inspired by the ECTS (European Credit Transfer System), which is precisely the marking criterion used by the European Union at the postgraduate level.

In chapter two, we suggested that there are three elements of a curriculum. These are curriculum standards (i.e. knowledge components, skills and dispositions), pedagogic approaches and summative assessments. These curriculum standards (derived from the eight competences) are not the same as pedagogic approaches (those arrangements in schools we make to allow learning to take place, and this includes formative processes of assessment) or summative assessments (how we evaluate whether those curriculum standards have been met at set points in time). This chapter focuses on science and mathematics teaching with the proviso that these pedagogical strategies are derived from the curriculum standards that the EU system of schooling is yet to generate. In addition, we provide here some general remarks about pedagogy.

4.2 Science and Mathematics Teaching

Writings about what makes for a good Science or Mathematics curriculum largely rely on conceptual work and professional wisdom. We lack high quality, large-scale evaluations that rigorously test interventions. For this reason an evidence-based research synthesis (let alone any sort of systematic review) is simply not possible (e.g. Watson *et al.*, 2013 re mathematics). Nevertheless in both Science education and Mathematics education there is a growing body of evidence-informed work about what makes for a good curriculum. The approach adopted here is therefore to draw on this consensus, at the same time pointing out where substantial differences of opinion exist.

Perhaps the most fundamental issue is that of content. In Science Education there has been a growing acknowledgement in recent times that there is too much content in school curricula, and this also applies to the European schools current Mathematics and Science syllabuses. Too much time is spent covering a myriad of specific, often isolated, pieces of content with the result that the 'big picture' is lost. In contradistinction to this, the 'big ideas' of Science Education have been identified. Concentrating on these big ideas not only facilitates the development of secure knowledge and understanding but also enhances student motivation. The best known of the attempts in Science Education to map what these big ideas might consist of is provided by Harlen *et al.* (2010) who came up with ten ideas *of* science and four *about* science:

4.2.1 Ideas of Science

These content ideas then need to be absorbed into teaching and learning practices.

1. All material in the Universe is made of very small particles.
2. Objects can affect other objects at a distance.
3. Changing the movement of an object requires a net force to be acting on it.
4. The total amount of energy in the Universe is always the same but energy can be transformed when things change or are made to happen.

5. The composition of the Earth and its atmosphere and the processes occurring within them shape the Earth's surface and its climate.
6. The solar system is a very small part of one of millions of galaxies in the Universe.
7. Organisms are organised on a cellular basis.
8. Organisms require a supply of energy and materials for which they are often dependent on or in competition with other organisms.
9. Genetic information is passed down from one generation of organisms to another.
10. The diversity of organisms, living and extinct, is the result of evolution.

4.2.2 Ideas about Science

1. Science assumes that for every effect there is one or more causes.
2. Scientific explanations, theories and models are those that best fit the facts known at a particular time.
3. The knowledge produced by science is used in some technologies to create products to serve human ends.
4. Applications of science often have ethical, social, economic and political implications.

At a level above such lists of 'big ideas', there are considerable differences between countries and other educational systems in the extent to which certain of the sciences are included within school science. We further discuss this arrangement of Science subjects in chapter five. While Biology, Chemistry and Physics are universally found within the fold, countries vary in the degree to which they include astronomy, earth science(s), electronics and psychology.

In Mathematics there have been a number of comparable lists. At a high level, a report, funded with support from the European Commission, characterised 'Big Ideas' in Mathematics as:

- Having high potential for developing conceptual knowledge;
- Having high relevance for building knowledge about Mathematics as a science;
- Supporting communication and mathematics-related arguments;
- Encouraging reflection processes of teachers (Kuntze *et al.*, 2011, p.8).

Watson *et al.* (2013) produced a list that is comparable with Harlen *et al.*'s list for Science. Their seven key Mathematical domains are:

- Relations between quantities and algebraic expressions;
- Ratio and proportional reasoning;
- Connecting measurement and decimals;
- Spatial and geometrical reasoning;
- Reasoning about data;
- Reasoning about uncertainty;
- Functional relations between variables.

4.2.3 Progression

It is clearly important to have a curriculum that facilitates (or at the very least enables) students to progress in their learning as best they can. In both Mathematics and Science there are a large number of studies that look at how students of different ages differ in their conceptual understanding. However, such cross-sectional studies have a number of limitations; in particular, they do not track learning at the individual level. The number of longitudinal studies is much smaller – a classic instance is Shapiro (1994).

Studies on students' progression in learning (whether in Mathematics, in Science or more generally) have often been interpreted as though learning progresses up a ladder or in stages, so that each rung of the ladder (or stage) needs to be reached before subsequent progression can occur. Unsurprisingly, fine-grained observations of students' learning, such as those by Shapiro (1994), reveals that learning is rarely like this. Not only do learners sometimes regress, they also at times 'jump' a stage (or rung on the ladder). The implication for curriculum developers is that concepts need to be ordered in a logical sequence that facilitates learning but it should not be assumed that learning proceeds inflexibly along such a route. Learning can be more like putting together the pieces of a jigsaw, where this can be done successfully in a number of ways rather than in one predetermined order.

4.2.4 Pathways

Related to the concept of progression is that of pathways. Many Mathematics and Science curricula at some age divide into two or more pathways. A common dichotomy is between (a) academic/pure and (b) vocational/applied. In principle this could be independent of ability/attainment, and sometimes this proves to be the case. For example, in higher education, courses in medicine and veterinary science, while manifestly vocational/applied, often have higher entry requirements than their academic/pure counterparts. At school level, however, those taking vocational/applied routes are generally lower attaining students.

A particular issue in Science is whether the various sciences should be taught separately or together. With younger children (e.g. in primary schools), the sciences are typically taught by one teacher, and this facilitates, but does not require, a more interdisciplinary approach. As students age, they are more likely to be taught science by two or three different teachers though some schools continue to teach combined science to the end of compulsory schooling. There is no evidence that studying combined sciences reduces failure rates. Indeed, one of the arguments in favour of having separate sciences (assuming they are not all compulsory) is that students can concentrate on the sciences they most enjoy and/or are good at – e.g. Chemistry and Physics, dropping Biology. On the other hand, one advantage of combined Sciences (even if taught by teachers teaching to their specialism within science) is that it makes it easier to cover subjects like earth sciences, which tend to get rather messed about if forced into the separate boxes of biology, chemistry and physics.

Common to both Mathematics and Science is the issue of whether the choice of particular courses cuts off the opportunity for subsequent study. This possibility is especially acute in science. For example, before the introduction of the National Curriculum in England and

Wales in 1989, a student (often, in reality, the school on their behalf) could choose how many, if any, of the three subjects, biology, chemistry and physics, to study. The result was that only a minority of students studied all three to age 16, with a gendered pattern resulting so that girls were more likely to choose biology and boys chemistry and physics. Such choices are resilient to change so that decisions made during secondary schooling, often with little conscious reflection, can have lifelong consequences.

4.2.5 The Use of Contexts or Applications

Much of school Science and Mathematics has the reputation of being difficult, dull, out-of-touch with students' aspirations and irrelevant to society as a whole (Osborne *et al.*, 1998; Hogden *et al.*, 2013). Specifications have traditionally been constructed from the perspective of professional Mathematics or Science educators with the concepts being presented in ways that are seen to be sensible by such educators. But many students see things differently and want teachers to show them *why* the concept is important. One possibility is to make the context – or storyline – the driving force (Hall *et al.*, 2003).

A number of curricula in Science and Mathematics have adopted this approach, sometimes with near-evangelical zeal, with claims that such curricula will enhance both learning and motivation. It is difficult to undertake rigorous evaluations, not least because it is often the case that schools can choose whether or not to adopt courses that have this sort of approach; this means that any notion of controls is hard to come by. By and large, careful evaluations seem to suggest that any generalisable benefits are probably small in terms of conceptual development, if they occur at all, but that such courses may serve to motivate certain students (Barker and Millar, 2000; Bennett *et al.*, 2007).

4.2.6 The Development of 'Skills'

The notion that skills exist independently of content has been widely critiqued yet the development of 'practical skills' features as an aim in many science courses, whereas such an aim features much less in Mathematics courses. Practical work in Science encompasses a broad range of activities that can have widely differing aims and objectives (Lunetta and Tamir, 1979). As such, the effectiveness of *specific* practical tasks, rather than the effectiveness of practical work in general, is what needs to be considered. An analytical framework that is increasingly being used in research on school practical work derives from Millar and Abrahams (2009). It can be summarised by thinking about practical work in terms of *doing* things with objects and ideas and/or *learning* about objects and ideas. For some activities, the teacher just wants the students to 'do things' with objects or materials in order to see a phenomena or an event, and remember what they saw. Such activities usually described as 'hands-on' are essentially just about 'doing' things. For others, the aim of the teacher is to help students understand some of the ideas that science uses to describe or to explain what they observe, and only really make sense as activities if one looks at them from the perspective of a particular set of ideas. For such activities, thinking is as important as doing and such activities can be thought of as being both 'hands-on' *and* 'minds-on' (Abrahams and Reiss, 2012).

4.3 Teaching and Learning

The implementation of the curriculum standards (see chapter two) has five components: developing a standards document for parents, planning a sequence of lessons, goal-orientated teaching, scaffolding in teaching, and individual student progression. These precepts are directly applicable to the European School system, as they are to all school systems. They are included here to indicate a direction of travel for the European Schools system, and they are intended to point to gaps and insufficiencies in the teaching and learning approaches taken by teachers within the European Schools system, as with other systems.

4.3.1 Parental Engagement

Parental engagement with the school is one important factor in their child doing well at school. Developing a standards document for parents and sharing it with them is an example of this. Parental involvement in their child's education is a broad concept and should not be understood exclusively as: a set of documents, or one-to-one conversations and meetings between teachers and parents, or helping children with their homework, or parents taking part in school-based events. These are examples of parental involvement but they are neither necessary in isolation nor sufficient as a whole. Developing material about the curriculum standards for parents is a positive school initiative to engage parents in their children's education.

The development of a parent-teacher relationship is an important factor in schooling. Such a relationship implies specific actions from both parties to build trust and maintain effective communication, which is focused on individual student progress and the viability of school programmes. Parental interest in what is happening to their child in school is desirable. It allows parents to identify specific ways in which parents can support their child's education outside the school, and it works best when it is thoughtfully coordinated between the school and its parents. Developing a standards document for parents is a school-based and school-initiated activity.

4.3.2 Planning

A second implementation strategy is planning. Lesson planning is a process that increases the teacher's ability to help their students learn a body of knowledge in a way that is in accordance with the discipline from which it is taken, and national values and aspirations, in line with the curriculum standards; and adapted to make it accessible and suitable for their students, who are not yet acquainted with it. Planning is an essential pedagogic activity, and is underpinned by a notion of anticipation, that is anticipating what will happen during the lesson that is being planned.

Lesson planning by teachers needs to take account of the following:

- The performance of the teacher, i.e. how they use the standards; the pacing or sequencing of the lesson; what type of classroom relations (between teacher and student, and between student and student) they establish within the classroom; and

the most appropriate pedagogic relations, such as: didacticism, inquiry-learning, modelling, demonstrating, eliciting, facilitating, testing, and scaffolding.

- The most appropriate arrangement of relevant and appropriate resources, in relation to: texts, artefacts, written material, electronic resources, displays, and their availability, the curriculum standards, and those enabling and amplifying technologies for learning, e.g. computers, microscopes, chemicals, etc., within the classroom.
- Spatial and temporal arrangements within the school and during the lesson.
- The need for a learning theory which specifies: how learning can take place in the particular learning environment; the resources and technologies needed to allow that learning to take place; the most optimum type of relationship between a teacher and a student (in a formal setting where the intention is that learning relating to a standard(s) should take place), or between a student and another student, or between a student and their parents, to effect that learning; and a theory of acquisition and transfer of knowledge and skills.

Effective lesson planning is time-consuming. Furthermore, if this lesson planning is carried out merely to fulfil a bureaucratic demand, either from the school or from the system, then it is likely to be an unproductive exercise. If, on the other hand, the planning of the lesson is seen by teachers as an essential part of determining the arrangements for learning in their classroom, and for allowing the teacher to better anticipate classroom events and happenings, then it is likely to be beneficial.

4.3.3 Goal Direction

A third implementation strategy is ensuring that teaching and learning is goal-directed. Goal clarity is therefore a component of productive learning environments. To that end, teachers need to provide their students with statements and explanations about the intended aims and objectives in a lesson or series of lessons. Goal clarity has three teacher-focused aspects: explaining to their students about how they are expected to perform the tasks assigned to them; providing opportunities for students to grasp what is expected of them, and evaluating whether or not the students gain experience as self-directed learners in the completion of the task.

Goal-oriented teaching requires the teacher to undertake specific actions to ensure goal clarity and focus on task completion at three stages of the lesson: at the beginning, setting learning goals and providing students with a model of the meta-cognitive strategies to start the task; in the middle or during the lesson, monitoring and assessing their goal progress, motivating students to look for explanations by means of exploration; and supporting them when they struggle, e.g. by suggesting relevant learning strategies and giving them personalised feedback such as how to adjust those strategies; and at the conclusion, providing students with an overall assessment of their goal progress, motivating them to extend their efforts, to persist and to keep adjusting their strategies, and to develop their own goals regarding future learning once they have met those they are working on.

4.3.4 Scaffolding

A generic model of teaching and learning can be characterised as a scaffolding process. Scaffolding essentially means an aid that is developed and offered to the learner by a more experienced person in support of the learning process with a focus on learning outcomes or curriculum standards. It has a number of characteristics: it is a temporary support; it is offered to the learner in relation to specific tasks that they are asked to perform, those tasks being derived from the learning outcomes; the learner is unlikely to complete the task without it; and the scaffold is provided to the learner by the teacher in their capacity as 'expert' in relation to the satisfactory completion of the task.

Scaffolding involves the following processes:

- Modelling, i.e. offering behaviour for imitation;
- Feedback, i.e. providing information on a performance as it compares to a standard;
- Instructing, i.e. requesting specific actions;
- Questioning, i.e. requesting a verbal response that helps by producing a mental operation that the learner cannot or would not produce alone;
- Cognitive structuring, i.e. providing explanations;
- Task structuring, i.e. chunking, segregating, sequencing, or otherwise structuring a task into or from components.

Scaffolding takes on a particular importance in L2, L3 and L4 learning environments as students need targeted support to help them:

- To identify and use academic language and grammatical conventions;
- To gain practice in using these languages to sort out and express their thinking; and
- To remain motivated in task completion that is complicated by the extra demands of working through an additional language.

The efficacy of scaffolding is influenced by the teacher's thoughtful combination of techniques and tasks, and the extent to which the teacher provides their students with multiple chances to engage with the relevant concepts and 'high-order' thinking processes. Teachers need to appreciate the different levels of scaffolding (i.e. intense, moderate, and minimum) and become skilled in applying them accordingly, providing more support when a particular student struggles with a specific task and reducing help as they collect evidence that the student is now proficient in that task. Technology-based scaffolds are regarded as valuable to support procedural tasks and to offer suitable cues for meta-cognitive processing. They also help by freeing up some of the teacher's attention in the classroom, allowing them to give more attention to their students' reasoning.

4.3.5 Student Progression

Student progression relates to a curriculum standard or at least to a set of related curriculum standards. The teacher specifies the standard(s) and the relationships between the standards and discusses them with their students. The student is given: the opportunity to articulate the standard or set of standards in relation to how they are expected to progress; a written and contextualised indication of their performance specifying

weaknesses, impediments and successes in relation to the achievement of these standards, and the means for improvement.

This mechanism involves a number of processes:

- Identifying the standards and interpreting their meaning;
- Providing a description with the student of their mastery of those standards, which should allow the identification of weaknesses in the student's mastery and the means for ameliorating these weaknesses;
- Record keeping for further identification of the student's current capability;
- Reflection on this and the identification of the means for improving;
- A focus on the curriculum standards,
- A meta-reflective record of progress in the curriculum.

Some consideration should be given to the type of record used, the media and storage of recording, and the logistics of use. Individual student progression is built on a formative approach which implies: instruction with the intention to further develop learning; a series of teaching decisions made on the basis of the teacher having gathered and studied evidence of their student's achievement in relation to a curriculum standard or set of standards, and the collection of evidence suggesting that the student's learning developed following feedback.

In the next chapter we discuss curriculum arrangements in the system.

5. Curriculum Arrangements in the European School System

5.1 Introduction

We suggest here that our proposals for the new curriculum in the European School system apply to all aspects of their teaching and learning environments: subjects to be taught, relations between subjects, core and optional curriculum elements, different types of teaching groups, summative forms of assessment, etc., and they cannot be treated as separate items. These curriculum arrangements refer to:

- *Subject areas in the European Schools Curriculum.*
- *Types of boundaries between those subject areas in the European Schools Curriculum.* These are either strong or weak.
 - o Strong - Language, Literature, Mathematics, Physics, Biology, Chemistry, Foreign Language, Physical Education, History, Geography, Sociology, Art, Music and Drama. These boundaries can be considered strong in the sense that the subjects are clearly demarcated and independent of one another.
 - o Weak - Language Studies, Science, Mathematics, Humanities, Performing and Creative Arts, Physical Education and Foreign Languages. These boundaries can be considered weak in the sense that the subjects are inter-connected and rely on interdisciplinary applications.
- *Models of Curriculum Integration.* These can be placed on a linear scale (see Figure 1) with traditional/fragmented approaches at one end, and networked approaches at the other. Over the last 50 years, there has been a move away from traditional/fragmented approaches towards networked approaches in most school and university curricula.

Figure 1: Curriculum Integration



In between these two points, traditional and networked, there are eight other points on the continuum: connected, nested, sequenced, shared, webbed, threaded, integrated and immersed.

1. A *fragmented curriculum* has clear boundaries between the different subjects and thus this first type cannot reasonably be thought of as integrated. Subject delineations are clear-cut, they are taught in separate blocks on the timetable, they have their own formal knowledge structure, and content is treated as distinctive and belonging to the specific area. This would appear on the far left of the linear scale in

the diagram above, and is likely to represent a model of the curriculum that many readers will be familiar with from their own schooldays.

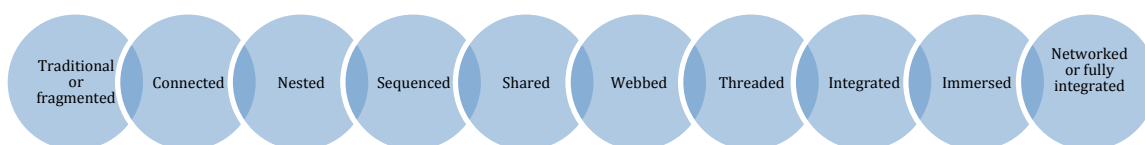
2. In a *connected curriculum*, reference is made to other content areas, connections are sought and suggestions are made as to how knowledge in another domain can supplement and contribute to knowledge in the specified domain. This is a common approach in many schooling systems, as it helps to encourage students and students to see knowledge in context and learn from different subject areas, whilst maintaining subject boundaries.
3. A *nested curriculum* has some similarities; however, a clear distinction is made between generic skills and specific content. This model is only partially integrated as the content of the subject area is still treated as specific to a curriculum area; however, some common skills are identified which cross the boundaries between different content areas and these are taught across the curriculum. This model is often used as a compromise in processes of curriculum reform, where it is recognised that some generic skills are important (for example literacy and numeracy), but where there is still a very strong commitment to subject boundaries.
4. Further along the continuum is a reference point, which we might want to describe as *sequenced*. Here deliberately planned topics are taught at the same time so that learners moving between different subject areas are taught the same concept albeit that reference is made to a different application and a different discipline in two or more different contexts. For example, statistical probability is taught in Mathematics and in Social Science to reinforce the learning of the concept and to allow students to understand how it can be used in different contexts. In this model, we start to see more complex inter-connections amongst subjects and their boundaries start to weaken. The advantages of this approach are similar to those of a connected curriculum.
5. The next point on the continuum is where the curriculum can be thought of as *shared*. Here, a particular topic is chosen which has a number of different disciplinary strands. Teachers from different subject disciplines are partnered and teach different aspects of the topic. This model is useful in allowing students and students to recognise and test the basis for knowledge claims and also to develop their own learning paths, which may not correspond closely to particular subject areas; for example, the topic of 'spin' can be approached from a Mathematics, Physics and Engineering viewpoint for the purposes of study, in order to ensure comprehensiveness.
6. A *webbed curriculum* has some similarities with a shared curriculum; the difference being that there is a greater degree of integration. The curriculum is divided into themes, and each theme is treated in a different way by the subject teachers. Thus the integrity of each discipline is retained, and the methods and approaches that are distinctive to these disciplines are taught even if the generic subject matter is the same. A good example of this in practice is the study of a European country through the medium of history (to gain a retrospective view of its formation as a nation state), geography (to understand the relationship between its physical borders and assets, its population, and its geopolitical status), and language (to appreciate its culture).

Each of these subjects could realistically be studied independently of one another but ideally the teachers should collaborate and integrate their work in order to ensure the most effective outcome for students.

7. Next to it on the continuum is a *threaded curriculum*, where the emphasis is on the process of learning, or on what might be called a meta-theoretical process. The content is subordinated to the teaching of these skills and a curriculum is devised which cuts across the traditional disciplines and focuses on common skills, such as literacy and numeracy. It can be difficult to assess outcomes using traditional assessment techniques using this model of learning, given that knowledge can be less specific and more variable than with other curriculum approaches.
8. A threaded curriculum in turn gives way to an *integrated curriculum*. Here disciplinary boundaries begin to dissolve, as teachers work in inter-disciplinary teams to plan units round overlapping concepts and themes. This is an approach to curriculum that has been widely used in UK primary schools for the past 40 years, and it is now also being introduced in Finland. It is also evident in many progressive schools internationally.
9. Almost at one end of the continuum is *immersion*. Here, integration becomes the responsibility of the learner as they focus on a particular topic or theme, and they borrow from different disciplines ideas, theories, skills and the like. There is little evidence here of any adherence to the methods and protocols embedded within particular disciplines. Immersion is often used as a therapeutic approach to education or at the extreme end of progressive schooling methods. If well-managed it can lead to extraordinary leaps in learning and cognitive development, but it often requires substantial resources in order to work well, beyond that of most schooling systems. There is also a risk that what might be regarded as crucial 'core' knowledge, such as accurate writing or technical arithmetical functions, are overlooked in favour of more experimental learning.
10. This finally gives way to a *networked curriculum*. Such an approach requires learners to reorganise relationships of ideas within and between the separate disciplines as well as ideas and learning strategies within and between learners. This is a form of flexible learning that challenges existing learning orthodoxies and once again can be difficult to test or evaluate using conventional methods and resources.

Each of these forms of integration can be positioned along a continuum (see Figure 2):

Figure 2: Curricular Modes in a Continuum



There are implications of adopting either fragmented or networked approaches or taking up positions in between. A fragmented or traditional approach fits better with how universities,

teachers, parents and students understand curricular divisions at school level; these structures enable choice between subject options whilst retaining core subjects; better reflects current arrangements; and can be better accommodated within traditional pedagogic structures. A networked approach can better accommodate the acquisition of the eight competences; reduces choice because it implies that all aspects of the curriculum have to be covered in the teaching and learning arrangements that are put in place; and may better reflect the nature of subject knowledge.

The European Schools system, as it is currently conceived, its proposals for reform, and the Interparents' variant, are generally of a fragmented or traditional type. And what we mean by this is that there are strong and clear boundaries between the different subjects. Our suggestion in this report is that in order to genuinely take into account the needs of students faced with the demands of the modern world; conform to the accepted and logical principles of curriculum design; be relevant, coherent, comprehensive, and allow breadth of study for all students in the system; guarantee in the last two years, leading to the European Baccalaureate, a general education around the eight key competences for lifelong learning; and impact favourably on specific groups, such as students without a language section, students with special educational needs, students with more than one national language and small language sections, then weaker forms of subject integration or networked approaches to subject boundaries need to be adopted. This in turn means that new arrangements for recruiting suitable teachers need to be made, though these new arrangements do not have to be in place from an early stage of the reforms. What has to be in place is a curriculum that conforms to the accepted and logical procedures for effective curriculum design.

- *Compulsory areas of the curriculum* students in the European Schools system should be required to study, and the frequency/duration of such subject teaching. We also need to give consideration to whether a particular pedagogic mode is required, i.e. in Science theory-based and practical lessons can be distinguished.
- *Optional areas of the curriculum* from which all students in the European Schools system would be required to choose. Again, frequency/duration and pedagogic mode need to be determined.
- *Streaming, setting and grouping processes, including language sections*, as they relate to compulsory and optional areas of the European Schools curriculum. This might mean that different streams or sets of students are created within each school; or a policy is adopted in the schools of mixed ability groupings throughout the timetable. The important point here is to have a considered, evidence-based, understanding of the reasons underpinning the decisions that are made, to avoid arbitrary groupings based on historical precedence rather than proven educational effect sizes.
- In the light of this, we also need to consider *the size of classes and any related pedagogic arrangements* in relation to streaming and setting policies, compulsory and optional subjects, *and* the degree of integration in subjects on the curriculum.
- There is also a need to consider *the allocation of resources*, and in particular teacher resources, in relation to the curriculum issues set out above. Some curriculum models require more resources than others, and this refers to the capacity of teachers to adopt the optimum pedagogic approaches in their classrooms.
- Finally, we need to review *centralising and decentralising arrangements within the European Schools System*, i.e. whether these decisions about the curriculum should

apply to all parts of the system, or whether we think that different types of schools within the system should be allowed to make these curriculum decisions by themselves. In other words, the choice that needs to be made is between curriculum uniformity and diversity of provision within the system.

In any system, curriculum changes will always impact on assessment processes, for the reasons given above. Therefore, there are implications of some of these decisions for the constitution of the European Baccalaureate and in particular, for the Baccalaureate rules. There are also implications for higher education access.

5.2 Subject Areas and Boundaries

There are a number of important considerations as to which subjects should be taught in the EU Schools' curriculum.

5.2.1 The Role of Parents and Students

Parents and students will invariably bring their own understandings about curriculum planning to any discussion of a reform process. This means that if parents hold traditional views about subjects within a curriculum, for example, that there needs to be three separate sciences (i.e. Physics, Chemistry and Biology), then it follows that, as far as they are concerned, a general science curriculum is going to appear incomprehensible or, in their view, represent a simplification and thus reduction in the quality of this important area of the curriculum. It doesn't matter whether parents are correct in their judgements about the subject make-up of the curriculum, their beliefs are significant factors in any decisions made by European school curriculum-makers, and need to be taken into account accordingly. A system that overrides the views of those closely involved on a day-to-day basis is unhelpful and unresponsive, and any reforms are unlikely to work in practice unless parents are considered to be an important part of the reform process. However, parents do not necessarily make appropriate judgements about curriculum matters.

5.2.2 The Role of Teachers

Teachers will also bring their own understandings of curriculum planning to any debate. This has the same effect as with parents, though teachers approach the problem from a different angle. Their perspective emanates from longstanding and perhaps strongly held beliefs about curricular divisions, their own disciplinary perspective (i.e. their university subject and their pedagogical training in that subject) and the syllabuses and curricula they have been teaching for, in some cases, many years. Again, effective reform is impossible without adequate teacher engagement and support, so teachers' views need to be taken seriously.

5.2.3 Governance

In Article 4 of the Convention, the following recommendations are mandated:

1. The courses of study shall be undertaken in the languages specified in Annex II;
2. Certain subjects shall be taught to joint classes of the same level;
3. A particular effort shall be made to give students a thorough knowledge of modern languages;
4. The European dimension shall be developed in the curricula;
5. The conscience and convictions of individuals shall be respected; and
6. Measures shall be taken to facilitate the reception of children with special educational needs.

As Article 4 is legally enshrined, any reforms need to take account of these six points.

5.2.4 The Role of Competences

The incorporation of eight key competences for lifelong learning into the European Schools curriculum has been recommended by the European Parliament and the Council. The Board of Governors accepted this recommendation as a key element of the curriculum in European Schools. These competences are:

1. Communication in the mother tongue;
2. Communication in foreign languages;
3. Mathematical competence and basic competences in science and technology;
4. Digital competence;
5. Learning to learn;
6. Social and civic competences;
7. Sense of initiative and entrepreneurship;
8. Cultural awareness and expression.

In planning any curriculum reform, it is important to avoid subject areas that do not have an overall rationale or are not exemplifications of the eight competences, otherwise the curriculum becomes an arbitrary collection of subjects. The point we are making here is that a curriculum should have an overall rationale, and this is provided by the eight mandated key competences. Other types of rationale could have been chosen, such as a comprehensive coverage of all the possible forms of knowledge or a conformity to European higher education curricula. To argue that these eight key competences can be supplemented by other competences or forms of knowledge weakens the stipulation that the curriculum should be based round these particular and specific competences. The current situation, the proposals for reform and the Interparents' variant both minimise the importance of the eight key competences for lifelong learning and in addition do not have an overall rationale or justification underpinning them. These Subjects also need to fit with current and/or future arrangements for the Baccalaureate.

5.2.5 University Entrance

A further factor is university entrance. It should be noted that subjects that fall within traditional disciplinary boundaries are also more readily recognised by a range of university systems. However, universities may recognise these subject boundaries as subject divisions at the point of student entry; but arrange knowledge into subjects that do not conform to these traditional subject boundaries, i.e. only a very few universities currently divide their Science provision into Physics, Chemistry and Biology. It should also be noted that university entrance requirements are variable, depending on the national system in operation, the apparent prestige of the university, how competitive course entry needs to be (for example, medicine is an example of a highly competitive course), the type of entrance qualification for particular students, overall student numbers, and the length of time a course has been in operation, to name a few factors. An important factor in any reform is therefore flexibility.

University access for students in the European School system is determined by a number of factors: the legal requirement for European Universities and Colleges of Higher Education to recognise the European Baccalaureate, the credibility of the Baccalaureate as an award, an acceptance that the standards of the award (as exemplified in the marks given to individual students) conform to the entry requirements in those universities and colleges of higher education, and are comparable to other forms of entry accreditation, such as 'A' levels in the English national system, and the type of subjects studied at school (these will vary depending on the degree course that the student wants to study on). With regards to the latter, we found no evidence to suggest that the current arrangement of subjects, the new proposals, the Interparents' variant and the curriculum that we are proposing would prevent any student from studying on any of the courses we identify below. Students who fail to gain entry to their chosen university or college of higher education are rejected on the grounds of their achievements or lack of them in the Baccalaureate, and not on the three other factors identified here.

In terms of preparing students for university within the European Schools system at S6 and S7 the following subject areas are currently incorporated into the curriculum: Art, Biology, Chemistry, Economics, Physical Education, Geography, Ancient Greek, History, ICT, Language 1, Language 2, Language 3, Language 4, Latin, Mathematics, Advanced Mathematics, Ethics and Religious Studies, Music, Other National Language, Physics, Religion and Philosophy. (nb. the situation of Latin and Ancient Greek is unusual in that it is only relevant to a relatively limited number of students, such as for university entrance requirements in Greece).

There are some areas of the curriculum that are taught at universities and higher education institutes in Europe but not included in this list. For example, there is no mention of Psychology, Linguistics, other ancient languages besides Latin and Ancient Greek, Sociology (except in the Interparents' variant and as an option in the proposed new arrangements), Social Science, Engineering, Law, Technology, etc.

In this report a full analysis of all universities and their entrance requirements would clearly not be possible. However we have examined the types of degrees (and thus the types of knowledge areas) of three leading universities in three different member states, in order to give a snapshot of the current position.

5.2.6 University College London (UCL)

The range of degrees on offer at UCL is as follows. As can be seen, many are interdisciplinary in character, or represent subjects not studied at the European Schools.

- Anthropology (2 degrees);
- Applied Medical Sciences (2 degrees);
- Archaeology (6 degrees);
- Architecture (3 degrees);
- Arts and Sciences (2 degrees);
- Biochemical Engineering and Bioprocessing (4 degrees);
- Biochemistry and Biotechnology (2 degrees);
- Biological Sciences (2 degrees);
- Biomedical Sciences (1 degree);
- Chemical Engineering (2 degrees);
- Chemistry (13 degrees);
- Civil and Environmental Engineering (2 degrees);
- Classical World (10 degrees);
- Computer Science (3 degrees);
- Earth Science (9 degrees);
- Economics (2 degrees);
- Economics and Business (3 degrees);
- Education (3 degrees);
- Electronic and Electrical engineering (2 degrees);
- English (1 degree);
- European Languages, Culture and Society (15 degrees);
- European Social and Political Studies (2 degrees);
- Fine Art (2 degrees);
- Geography (6 degrees);
- Hebrew and Jewish Studies (5 degrees);
- History (5 degrees);
- History (Russian and East European) (2 degrees);
- History of Art (2 degrees);
- Human Sciences (2 degrees);
- Law (5 degrees);
- Linguistics (2 degrees);
- Management Science and Innovation (4 degrees);
- Mathematics (14 degrees);
- Mechanical Engineering (4 degrees);
- Medical Physics and Biomedical Engineering (4 degrees);
- Medicine (1 degree);
- Natural Sciences (2 degrees);
- Neuroscience (2 degrees);
- Pharmacology (2 degrees);
- Pharmacy (1 degree);
- Philosophy (4 degrees);

- Physics and Astrophysics (6 degrees);
- Political Science (1 degree);
- Politics (2 degrees);
- Population Health (1 degree);
- Project Management for Construction (2 degrees);
- Psychology (2 degrees);
- Psychology and Language Sciences (1 degree);
- Russian and East European Languages and Culture (12 degrees);
- Science and Technology Studies (2 degrees);
- Social Sciences (2 degrees);
- Statistical Science (6 degrees);
- Urban Planning and Urban Studies (3 degrees).

5.2.7 University of Luxembourg

The University of Luxembourg offers the following undergraduate degrees (Bachelors). Once again, it is clear that many of the subject areas are applied or interdisciplinary.

- Bachelor en Informatique (Language of Instruction – English and French);
- Bachelor en Ingénierie (Language of Instruction – French and German):
- Fillère Électrotechnique, Fillère Énergie et Environnement, Fillère Génie Civil (Construction), Fillère Génie Civil (Urbanisme et Aménagement du Territoire, Fillère Gestion de Chantiers en Europe, Fillère Mécanique Générale, Fillère Mécatronique, Fillère Télécommunication;
- Bachelor en Sciences et Ingénierie (Language of Instruction – English, French and German) – Fillère Ingénierie (Électrotechnique, Génie civil Mécanique, Informatique), Fillère Mathématiques, Fillère Physique; Bachelor en Sciences de la Vie (language of Instruction – French and German) – Fillère Biologie, Fillère Médecine, Fillère Pharmacie;
- Bachelor en Droit (Language of Instruction – French and English);
- Bachelor en sciences Économiques et de Gestion (Language of Instruction – French and English);
- Bachelor en Gestion (Language of Instruction – French and English) – Fillère Assurances, Fillère Banques, Fillère Entreprises;
- Bachelor en Cultures Européennes (Language of Instruction – French, English and German) – Fillère English Studies, Fillère Études Françaises, Fillère Germanistik, Fillère Histoire, Fillère Philosophie;
- Bachelor en Psychologie (Language of Instruction – French, English and German);
- Bachelor en Sciences de l'Éducation (Language of Instruction – French, English, German and Luxembourg);
- Bachelor en sciences Sociales et Éducative (Language of Instruction – French and German).

5.2.8 University of Barcelona

In the University of Barcelona the following undergraduate degrees are being offered, and again, many are applied and/or interdisciplinary.

- Administració i direcció d'empreses
- Antropologia social i cultural
- Arqueologia
- Belle arts
- Biologia
- Bioquímica
- Biotecnologia
- Ciència i tecnologia dels aliments
- Ciència ambientals
- Ciència biomèdiques
- Ciències culinàries i gastronòmiques
- Ciències de l'activitat física i de l'esport
- Ciències del mar
- Ciències polítiques i de l'administració
- Cinema i mitjans audiovisuals
- Comerç i distribució
- Comunicació audiovisual
- Comunicació i indústries culturals
- Conservació-restauració de béns culturals
- Continguts digitals interactius
- Criminologia
- Disseny
- Dret
- Economia
- Educació social
- Empresa internacional
- Enginyeria biomèdica
- Enginyeria de materials
- Enginyeria electrònica de telecomunicació
- Enginyeria geològica
- Enginyeria informàtica
- Enginyeria química
- Estadística
- Estudis anglesos
- Estudis àrabs i hebreus
- Estudis francesos
- Estudis francesos
- Estudis literaris
- Farmàcia
- Filologia catalana
- Filologia clàssica
- Filologia hispànica

- Filosofia
- Física

5.2.9 Curriculum Subjects

These three examples give some indication of the range of subjects offered at Bachelor level in European Universities and Higher Education Institutes (and other European universities typically offer similar ranges and types of courses). The titles of the various degrees do not equate with the titles of the subjects offered currently in the European Schools system. These differences reflect both omissions and particular sets of combinations. They also reflect the type of university or institute of higher education, the various ways those institutions have combined subjects together, their institutional histories, and the availability of teaching staff and other resources. Likewise, the European school systems' current arrangements reflect the history of the system, the availability of resources (including teacher resources) and the types of schools that have been developed. This means that there is no overall curriculum rationale for the selection of subjects and combinations of subjects in either the European School System or the European Higher Education System, though there is some attempt in both to be broad and comprehensive. Student mobility between the European School system and other national European school systems is and will continue to be a problem. There is, and will remain, a disjuncture in relation to subject contents, subject designations, pedagogic approaches, summative forms of evaluation and curriculum arrangements between the European school system and other European national systems. The greater flexibility offered by the new curriculum arrangements that we suggest below will mean that student mobility, in relation to the curriculum, is better facilitated.

However, these differences between the overall European Schools' curriculum (in terms of the curriculum offered) and the overall curriculum of European Higher Education Institutions, and also in the curriculum offered in national systems in Europe, are not unexpected. And yet, breadth and comprehensiveness are mandated in the European School System by the Board of Governors. This is that the curriculum (including choice of subjects, relations between core, option and complementary subjects, length of instructional time given to each of those subjects, etc.) should reflect the eight core competences. Otherwise, decisions relating to choice of subjects, relations between those subjects, the content of those subjects, and the length of instructional time for these subjects become a matter of special pleading and are relatively arbitrary.

Philosophy is an example of this. A number of arguments have been put forward to support the idea that it should be central to the EU School Curriculum, many of them valid, some less so. Philosophy already forms a part of the Baccalaureates for France, Italy and Spain. Students applying to universities in these countries without Philosophy as a component of their pre-university qualification are placed at a disadvantage. A European Baccalaureate without Philosophy would therefore be considered a second-class qualification by some European citizens. Indeed, Philosophy gives an excellent basis for Law, Psychology, Economics, Theology, Literature, History, Geography, etc. and in addition is a coordinating and unifying subject in its own right. In addition, Philosophy is the only subject that allows students to consolidate and unify knowledge across the disciplines. Without Philosophy in the curriculum as a compulsory subject, students graduate with fragmented pockets of knowledge, but no framework that encompasses all the disciplines and allows them to

develop a consistent, intellectual worldview. The Philosophy syllabus therefore fills in critical gaps that exist in other parts of the European Schools curriculum. For example, the Philosophy course is the only place that students consider civics, political theory, epistemology, philosophy of science, ethics etc. For many S6 and S7 year students, this helps them to make sense of the academic knowledge that they have acquired and creates a framework for their knowledge. In addition, Philosophy would fit well into the competency curriculum, being relevant to competences five, six, seven and eight: learning to learn; social and civic competences; sense of initiative and entrepreneurship; and cultural awareness and expression. These are powerful arguments for Philosophy being central to the EU Schools Curriculum, and for being a core rather than optional subject, quite aside from any thought of university admissions requirements.

Latin is another example where it is relatively easy to make a strong case for its continued inclusion in the curriculum, though again we do not agree with all the arguments set out below. A number of arguments then, have been developed as to why Latin should be a part of the curriculum. Students want to study it and thus limiting or eliminating it would restrict both the principle of choice and diminish the possibilities for learning implied by offering choice to students, i.e. they are more likely to be motivated in their studies if they have some choice in what they study. Latin is the foundation for many European languages and thus studying Latin facilitates the learning of many of these languages. The language of Latin has cultural significance for European students. For those students who want to study ancient civilizations at European Universities, studying Latin is particularly advantageous.

Disagreement about the content areas of the curriculum occurs in all subjects and religious education is no exception. However, controversy about the purpose of the religious education curriculum can be particularly intense. Here we identify the three main aims for a religious education curriculum, and discuss which of these, or which combination of these, might be most appropriate for European Schools.

A well-established aim of much religious education is to maintain the faith of students in one particular religion or denomination (i.e. confessional religious education). While there may be some debate as to how this principle should be interpreted, it is clear that the 'proselytising' approach is in contravention of Article 4.6 of the Convention, which suggests that 'the education given in the schools shall be organised on the following principles [...] the conscience and convictions of individuals shall be respected'. This proselytising approach is often popular with certain parents who want to see a school promoting the same religious way of understanding the world that they provide in their homes. This aim is often found in what are typically referred to as 'faith schools' (whether publicly or privately funded), by which is meant that one particular understanding of religious faith predominates. Proponents of this approach may argue that parents have a right to ensure that their children are educated within a particular religious framework or ethos.

Schools that have this approach vary greatly in the amount of time that is explicitly devoted to religious education in the curriculum. In some schools this can take up half the timetabled curriculum. In others the time spent on religious education may be much less, typical of or less than that spent on other subjects. A related aim is to proselytise (convert) students from no religious faith or (more rarely) from one religious faith to another. However, such an explicit aim is increasingly uncommon within Europe.

An aim of religious education that has become more common in recent decades is to introduce students to one or more religions, typically one or more of what are often referred to as the five world religions – Christianity, Islam, Hinduism, Buddhism and Judaism (even though at a global level Judaism has fewer adherents than a number of other religions). Students are generally introduced to a number of dimensions of each religion, including its scriptures, main doctrines and practices. The aim is typically to get students to understand what it is like to be an adherent of a religion, without in any way implying that they should develop a religious faith if they do not already have one, and to help students appreciate the similarities and differences between religions. Done well, of course, such an approach to religious education should not undermine a student's own religious faith, if they have one.

Proponents of this approach typically argue that religions play an important role in society, even in countries where only a minority of people profess a religious faith, and that better understanding of religions might increase social cohesiveness and perhaps reduce religious extremism. In certain respects this approach is akin to what teachers of geography, history and even foreign languages do when they attempt to help students understand what it is to live elsewhere or at a different time or to have a different home language and culture.

One aim of religious education, which can co-exist with either of the other two, is to use the subject expertise of religious education teachers to help students improve the quality of their reasoning about such major philosophical questions as 'What is a good life?' and 'How should we behave?' Of course, in pluralist and liberal societies, a high proportion of people hold that the answers to such questions are not to be found only within a religious worldview but the pragmatic reality is that religious education teachers often have a more rigorous philosophical training than do teachers of most other subjects and so are particularly suited to teaching such topics, whether or not they are addressed within a religious framework.

This aim of religious education can be popular with many students, especially those for whom religion has little or no attraction. Such students are unlikely to be much interested in the practices, doctrines or history of religions but may be much more interested in a range of possible answers, religious and non-religious, to questions about meaning and ethics.

Every age may think that things are changing faster than they have before, yet it seems clear that with the last generation or two European society has changed hugely in terms of the importance of religion. These changes have been of three main types. First, the proportion of people who openly state that they are atheists, humanists or simply don't have much or any interest in religion has increased very substantially. Secondly, the importance of religion in public life has eroded considerably so that in a number of European countries, religion now plays almost no public role beyond the occasional ceremonial or traditional. Thirdly, there has been an increase in religious diversity. This has been most notable in the case of Islam. Countries in Europe that only a generation or two seemed to have very few Muslims may now have large Muslim communities and questions to do with Islam and Muslims are much higher up the political agenda.

Accordingly, it seems to us that European Schools have a great opportunity, perhaps even a duty, to prepare students to deal with these changes. Given the firmness with which many people hold views about religion (whether for or against), it seems valuable to have education in schools that would both inform students about religions and allow them, within the sort of structured environment that a good teacher can provide, to explore and come to

understand different points of view about religious faith, doctrine and practice. Done well, such teaching should neither weaken the religious faith of those students who have such a faith nor seek to convert students to any religious adherence; rather, it should facilitate understanding, values clarification and, within appropriate limits, such virtues as tolerance.

There are four programmes for religious education in the European Schools: for Catholicism (i.e. Roman Catholicism), for Islam, for Orthodox Religion (i.e. Orthodox Christianity) and for Protestant religious education. In addition, there has long been a syllabus for non-confessional ethics. However, only in 2008 did the Board of Governors mandate a Working Group on which the representatives of the religious authorities would sit, charged with developing syllabuses common to all the European Schools for the different religions. Up to four have been approved at this point. Nevertheless, there are other religions (e.g. Judaism, Buddhism...) where groups can be formed (with no minimum size) which do not have a syllabus.

Each of the relevant syllabuses has an Introduction, which describes the 'common objectives for all religion classes being taught in the European Schools'. These include:

- Religious Studies classes taught in the European Schools are intended to provide a special educational environment. Through these classes, individual students acquire points of reference for their future lives, learn how to select from different options for their daily lives, and also how to organise themselves and to live in a way that is carefully thought out and responsible.
- They implement a comprehensive education which principally searches for meaning and poses questions, 'drawing inspiration from cultural, religious and humanist inheritance of Europe' such as defined in the Preamble of the Lisbon Treaty.
- Religion classes provide rigorous information on the articles of faith that belong to each religion. They stimulate initiatives which develop a consistent approach to values in order to prepare all students to become responsible citizens, capable of contributing to the development of societies that are democratic, supportive, pluralist and open to other cultures, and to access the wealth of cultural diversity, whilst encouraging the recognition and respect of the diversity of beliefs.

As with Philosophy, Latin and now Religious Studies, we can see that a special case can be made for each of them as a core subject, or at least as an optional alternative, in the secondary curriculum. Yet the problem with maintaining student choice at the levels currently permitted, and (for example) maintaining instruction in particular subjects such as Philosophy, Religious Studies or Latin, is that it has led to a very complex and diverse system with inconsistencies between schools. In some cases students are denied their first choices, or required to take subjects that they do not want to take. We therefore need to decide how best to balance the curriculum in a way that ensures a rounded education for students as well as reasonable equity of choice.

We now set out three general alternatives: no options, option choices within pathways, and core and option subjects.

5.3 First Alternative: No Options

The first alternative is to eliminate options and teach elements of all the possible subjects that could be a part of the curriculum (and this would include subjects which currently are not offered in the European School System curriculum such as psychology, linguistics, sociology, history of art, engineering, etc.) or are recognised as subjects by European universities. This could be achieved in a number of ways. General subject areas or pathways (and some of these are recognised in European University curricula) are created along the lines of the mandatory eight European competences, and all the possible subjects and all the subjects recognised by European universities are allocated to these areas. For example, instead of offering History (European or otherwise), Geography, Religious Studies, Ancient Civilizations, Literature, Fine Art and History of Art, Music History and Appreciation, Law, Archaeology, Architecture and Philosophy, elements of these could come under the overall subject heading of Humanities or Cultural Studies. Another example is Social Studies. So for example, instead of offering Psychology, Sociology, Statistical Science, Economics, Business Studies and Political Science as options, elements of these are subsumed into a generic area of study or pathway, which could be called Social Studies or Social Sciences. A third example is Natural Sciences, and this would incorporate Physics, Chemistry, Biology, Biochemistry, Biotechnology, Technology, Earth Science, Astronomy and Medicine.

In these three examples, students wouldn't choose between these subject areas, they would study all of them. However, unless more time was allocated to the teaching of the curriculum, this restricts the amount of time given to each of the subject areas (whether this is expressed as number of periods or as number of minutes of study). It delays specialisation of study by the student and effectively locates this decision at the point of entry to higher education. Such a proposal restricts content (defined as knowledge constructs, skills and dispositions within the subject discipline) for each subject area. However, depending on the way subject content is chosen, arranged and taught within the pathway, this should not be thought of as necessarily resulting in a weakening of each subject area.

There are considerable savings by abolishing or limiting option choices. These would come from limiting the number of small classes in the system, though language issues would still be a major factor in the size of classes. The principle that should be followed is that the size of class is determined by an educational rationale (the optimum number of students in each class to enable learning to take place) and not by a bureaucratic rationale (i.e. fitting student preferences into pre-specified groupings with consequent clashes between, and disappointments in choosing, options). Often the rationale in the current arrangements for each set of eliminatory options from S4 onwards remains unspecified, and some of the timetabling choices that are being made have the effect of appearing relatively arbitrary to the outsider. In S4 for example the options are presented as follows: Music or ICT, Art or Mathematics+, L4 or Latin, Economics or Greek, as in the working group's proposals. Some options are opposed to courses that correspond to the same 'family' of knowledge (for example Latin or L4), but other eliminatory choices restrict breadth and comprehensiveness in their curriculum (a good example being the need to choose between Music or ICT at the early age of S4, which effectively precludes the useful study of Music Technology). It is important to address this issue, as current satisfaction with existing subject choices is comparatively low:

- BERGEN: 79.1%;
- EEBII: 81.4% (2014); 85.6% (2013);
- EEBIII: 80%-90%;
- LUX1: 69% (2013-14); 71% (2014-15);
- LUX2: 53.5% (2012-13); 55,1% (2013-14); 61,4% (2014-15);
- MUNICH: 84% (2013-14); 77.9% (2014-15).

These figures are broadly characteristic of the schools within the system.

5.4 Second Alternative: Option Choices within Pathways

A second alternative is to retain the six curriculum pathways but instead of offering Social Studies, Humanities or Science as generic areas of study, each pathway is broken down into four, five or six compulsory subjects. So, in the Social Studies pathway, students would study Psychology, Sociology, Statistical Science, Economics, Business Studies and Political Science, with each of these subjects retaining its identity and being given one sixth of the available time given to the pathway (this can be expressed as time or as lessons) or unequal portions of the available time (as in two-period, four-period or six-period arrangements depending on decisions being made about their relative importance). If it was considered that too small amounts of time or not enough lessons were being allocated to each subject, then the length of the school day could be increased to accommodate all the subjects being taught or time for one pathway could be increased at the expense of other pathways. Considerable savings would be made in comparison with the current arrangements because class sizes are maximised since all students would be studying all the subjects.

There are a number of other advantages. The eight competences could genuinely act as a guiding curriculum framework as they are mandated to. Students would be able to make better choices of which subjects they should study at university because they have studied them all or at least versions of them all. The curriculum would have genuine breadth and be comprehensive in coverage. As soon as a system of options is introduced each individual person's curriculum is reduced in breadth and comprehensive coverage. The problems associated with clashing options (i.e. having to choose between Biology, ICT and Geography when the student wants to study Biology and ICT and has to settle for Biology and History) and with option choices between subjects that are not compatible (i.e. choosing two options from Biology, Chemistry, ICT, Physics and Geography) would not exist. The principal disadvantage of this arrangement also applies to the first alternative, and this is that coverage (i.e. exposure to the knowledge constructs, skills and dispositions) of the disciplinary subject would be restricted (unless the amount of time given to the curriculum was increased). Further, this alternative and the first one would entail radical changes to the curriculum and there are extra costs and potential risks associated with this.

5.5 Third Alternative: Core and Option Subjects

The third alternative is a mixture of core subjects and options (of different types and as having different relations with the core subjects). The first version is the current arrangements (adapted from the InterParents' document, 2015-01-D-10-en-1 annex_IOE).

5.5.1 Current Arrangements

The organisation of the secondary studies was the object of a broad reform in April 1990 (2015-01-D-10-en-1 annex_IOE, p. 4 footnote 8). Additional reforms to S1-S3, originally introduced as part of the current proposal for the reorganisation of secondary studies, were implemented starting from September 2014. Broadly it is worth noting that the school day is divided into periods of 45 minutes separated (at minimum) by a break of 5 minutes. The figures presented in the various tables below are the number of 45-minute periods dedicated to each course per week. Further to this, the curricula for the three cycles in secondary school comprise, in differing proportions: *core (compulsory) subjects* which are run irrespective of the number of students; for core subjects, non-viable group sizes are managed by grouping students across several levels (so-called "vertical grouping") or across languages ("horizontal grouping"); if this is not possible teaching hours are reduced according to the following table:

Number of Periods/Week Timetabled	Number of Periods to be Organised
5 or 6	4
4	3
3	2
2	1 (Religion and Ethics)

A group is not considered viable if it has less than seven students for S1 to S5 and less than five students for S6 and S7. Optional courses run in a language, only if there are a sufficient number of students selecting the option. For optional courses, students are often given the choice to take the course in a vehicular language, if it is offered.

In exceptional circumstances derogations to these rules may be granted. More detail is given at various points below to illustrate how these rules are applied throughout the three secondary cycles.

The number of courses using a student's 'non-dominant' language (i.e. not L1) as the language of instruction increases as the student progresses into secondary school. In particular, by the end of the first cycle of secondary school and into the second cycle there is a marked increase in the number of courses taught in L2; in the second cycle, options are also added, which likewise increases the chance of students (particularly in smaller language sections) taking courses in their L2 or other vehicular language. The progression is meant to follow students' linguistic development, i.e. by S3 students are believed to be equipped with the skills to learn academic subjects in their L2.

In the current structure, students have some degree of personal choice over how much of their secondary education they undertake in their L2 or other languages. However, in most instances they are only able to exercise this control by confining their choice of subject options according to the specified language of instruction. This situation may favour multilingual students, but it can have strong disadvantages for students who are not linguistically able/advanced due to learning difficulties or late entry into the system, quite common given the mobility of the target population between countries and systems of education. There is also a wide range of experiences depending on the size/viability of the language section to which the student belongs, with students in smaller sections more often compelled to take courses in vehicular languages.

Current Organisation of Studies in S1-S3

The lower cycle of the secondary programme is organised along the following lines.

Subject	Year 1	Year 2	Year 3
Dominant language (L1)	5	5	4
Mathematics	4	4	4
L2	5	4	4
L3	2	3	3
Physical Education	3	3	3
Religion/Ethics	2	2	2
Human Sciences	3	3	3
Integrated Science	4	4	4
Latin (optional)		2 (optional)	2 (optional)
Art	2	2	2
Music	2	2	2
ICT	1	1	2 (optional)
Total	33	33 or 35	31 or 33

The timetable ranges between 31 and 35 periods per week for these years.

In S1, a second foreign language (L3) is introduced (it previously started in S2). Students are required to take their second foreign language through to S5, after which it becomes an option. Some subjects (Physical Education, Music, ICT and Art) are taught in a working language (WL, one of the three vehicular languages or the HCL, host country language). The practice of teaching these courses in a working language continues throughout the whole of the secondary cycle.

In S2, the timetable remains unchanged in its main features. L2 is decreased by 1 period and L3 increased by the same amount. Students are also given (since September 2014) the option to take 2 periods of Latin. Currently, Latin can be taken as an option through to the Baccalaureate, though many students stop after S3 or S5.

Beginning in S3, Human Sciences and (since September 2014) Religion/Ethics are taught in L2, with some exceptions. The L1 course is decreased by one period to 4 periods. In S3, ICT becomes a 2-period option; students may choose either Latin or ICT but not both. Currently, ICT can be taken as an option through S5 and as a complementary (non-Baccalaureate subject thereafter).

As options, Latin is not guaranteed in S2 or S3 nor ICT in S3; both are offered only when 7 students from a given language section request the course. If a group is not created, students may be given the choice to take the option in a vehicular language, subject to availability. Religion and ethics are also treated as options in relation to whether particular classes are sufficiently popular to be created but have exceptional rules controlling the creation of groups.

In S1 through S3, eligible nationals may continue to take an ONL for 2 periods a week; Greek students are introduced to Ancient Greek for 2 periods a week. SWALS students are enrolled in their dominant language as L1 and the vehicular language as L2. They take all other classes in their vehicular language; this sets them apart from other students.

Current Organisation of Studies in S4-S5

The current organisation of studies in S4-S5 was approved by the Board of Governors on 18 and 19 December 1979. Each student must take 31 to 35 periods per week: 27 to 29 periods of core subjects, common to all students, plus 2 to 8 option periods. For the latter, students have to choose from seven subjects. Additionally, eligible nationals may take ONL and Ancient Greek. The same timetable applies in both S4 and S5.

Subject	Number of periods	Language (as a rule)
CORE SUBJECTS		
L1	4	L1
Mathematics	4 or 6	L1
L2	3	L2
L3	3	L3
Physical Education	2	WL (VL/HCL)
Religion/Ethics	1	L2
History	2	L2
Geography	2	L2
Biology	2	L1
Chemistry	2	L1
Physics	2	L1
Total	27 or 29	
OPTIONS		
Economics	4	L2
L4	4	L4
Latin	4	L1
Greek / Ancient Greek	4 (2)	L1
Music	2	WL (VL/HCL)
Art	2	WL (VL/HCL)
ICT	2	WL (VL/HCL)

Beginning in S4, L2 is reduced by one period to 3 periods per week. Physical Education is also reduced from 3 to 2 periods and Religion/Ethics from 2 periods to 1 period (still taught in L2). 3 periods of Human Science is replaced with separate History and Geography courses (also taught in L2) of 2 periods each. 4 periods of Integrated Science is replaced with Biology, Chemistry and Physics of 2 periods each. Latin, L4, Economics and Greek are introduced as 4-period options (with Economics taught in L2 and Latin/Greek in L1), while Music, Art and ICT are introduced as 2-period options (still taught in a working language). As noted above, courses in compulsory subjects are always created, though in some cases students may be vertically or horizontally grouped or course hours reduced. Courses in option subjects are created only when seven students chose them. Where necessary, students who have chosen courses, which might not be created, are invited to choose a subject corresponding to the courses created. Students who have not taken an option in S4 and/or in S5 but wish to take it in S6 and S7 are required to pass an examination before going into S6. The examination covers the necessary prerequisites to keep up successfully with the desired course in S6 and S7. Generally though, a subject lost at S4 is lost as a future option. It should be noted that all courses also depend on the successful secondment (or increasingly, local recruitment) of a suitably qualified subject teacher.

Currently, in S4 students choose between a 4-period and 6-period advanced course in mathematics. If students find the 6-period course too difficult, it is possible to drop it for the 4-period course during the first semester (upon approval of the Director and the Class Council). There is another opportunity to move to the basic course during the transition to S5 (again with the approval of the Director and the Class Council). The only additional provision is that when dropping the 6-period course, the minimum number of periods must not fall below 31. This possibility encourages students to try the advanced mathematics without locking them into this choice.

Current Organisation of Studies in S6-S7

The proposals introduced for the reorganisation of the upper secondary cycle (S6-7) were the most far reaching and have thus been the most divisive. These were also the most deeply analysed by the working group, parents and other stakeholders. Currently, each student must take 31 to 35 periods per week; at least, 29 periods must be covered by core subjects and options.

Core Subjects		Options		Complementary Subject
<i>Column 1/periods</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>	<i>Column 5</i>
L1 4 L2 3 Mathematics 3 / 5 Rel. / Ethics 1 Physical Ed. 2	Biology 2 History 2 Geography 2 Philosophy 2	Latin 4 Greek 4 Philosophy 4 L3 4 L4 4 History 4 Geography 4 Economics 4 Physics 4 Chemistry 4 Biology 4 Art 4 Music 4	Advanced L1 3 Advanced L2 3 Advanced Maths 3	Lab-Physics 2 Lab-Chem 2 Lab-Bio 2 Computing 2 Elementary Econ 2 Sociology 2 Art 2 Music 2 Sport 2
Total: 13-15 p.	Total 0-8 p			
	These courses must be taken if not chosen in col. 3. Bio. is compulsory unless Physics, Chemistry, or Biology is chosen in col. 3.		Adv. Maths only with 5-period Maths in col. 1.	Art, Music and Economics not allowed if taken in col. 3.

The current structure is organised along the following lines:

- Core subjects must be offered.
- Options and complementary subjects may be offered if there are enough students in a section or school interested. (The minimum number of students required to create a course at this level is five).

- Some subjects are offered at both basic (2 periods, 3 for mathematics) and advanced levels (4 periods, 5 for mathematics). These include: Mathematics, Biology, History, Geography and Philosophy.
- Physics and Chemistry are offered only in 4 periods (no 2-period option is offered).
- It is compulsory to choose History, Geography and Philosophy, either at a basic or a superior level.
- It is compulsory to choose at least one Scientific Subject, i.e. Biology, Physics or Chemistry.

The possible choices are restricted by the Baccalaureate written and oral examination rules. A student might therefore take the following:

- L1 (4 periods)
- L2 (3 periods)
- L3 (4 periods)
- Advanced L1 (3 periods)
- Mathematics (3 periods)
- Religion/Ethics (1 period)
- Physical Education (2 periods)
- Biology (2 periods)
- History (2 periods)
- Geography (2 periods)
- Philosophy (2 periods)
- Economics (2 periods)

Total number of periods = 32.

This depends on the availability of options being offered in L3 and Economics, and on the possibility of vertical grouping being arranged within each institution. This student has a restricted scientific education at S6 and S7, studying only Biology and even then a basic course in this subject (Biology is deemed to stand in as proxy for Natural Science Subjects). Social Science is restricted to a two-period and therefore basic course in Economics. There may be a lack of coordination between syllabuses offered at basic and superior levels. This particular student is committing themselves to language-orientated courses at university level at the end of S5, since the level of study in all the other subjects is at a basic level.

Another student might choose to take the following:

- L1 (4 periods)
- L2 (3 periods)
- Mathematics (5 periods)
- Religion/Ethics (1 period)
- Physical Education (2 periods)
- Physics (4 periods)
- History (2 periods)
- Geography (2 periods)
- Philosophy (2 periods)
- Advanced Mathematics (3 periods)
- Biology (4 periods)

Total number of periods = 32.

This depends on the availability of options being offered in Physics, Biology and Advanced Mathematics, and on whether it is possible to arrange appropriate language groupings within the institution. We can see here that this student is concentrating on Mathematical and Natural Sciences and thus not leaving themselves open to studying Social Sciences, Humanities and Language subjects at university level.

Any route through this complicated arrangement means that some form of specialisation prior to S6 and S7 is inevitable. Students are confronted with choices between disparate sets of options and even then, depending on the size of the school, the number of students opting for particular subjects, the types of L1 students choosing these subjects and the possibility of forming groupings within each school to accommodate this, they may not be given their first choices and thus have to settle for subjects which they did not choose.

5.5.2 Proposed Reorganisation of Studies

The second version is the proposed re-organisation of studies at S4-S7 (adapted from the InterParents' document, 2015-01-D-10-en-1 annex_IOE). For both S4 and S5, the proposed timetable requires a minimum of 31 periods and a maximum of 35 periods. Options in the same horizontal line are incompatible. However, schools are allowed to reverse the position of Music and Art, and this takes into account the choices made by students.

Subject	Number of periods	Language (as a rule)
CORE SUBJECTS S4		
L1	4	L1
Mathematics	4	L1
L2	3	L2
L3	3	L3
Physical Education	2	WL (VL/HCL)
Religion/Ethics	1	L2
History	2	L2
Geography	2	L2
Biology	2	L1
Chemistry	2	L1
Physics	2	L1
Total	27	
OPTIONS S4		
Economics 4 / Greek / Ancient Greek	4 (or 2 Ancient Greek)	L2/L1/L1
L4 / ONL / Latin	4	L4/ONL/L1
Music / ICT	2	WL/WL
Art / Maths+	2 (or 3 Maths+)	WL/L1

These are arrangements proposed for S4. At S5 the following arrangements are proposed:

Subject	Number of periods	Language (as a rule)
CORE SUBJECTS S5		
L1	4	L1
Mathematics	4 or 6	L1
L2	3	L2
L3	3	L3
Physical Education	2	WL (VL/HCL)
Religion/Ethics	1	L2
History	2	L2
Geography	2	L2
Biology	2	L1d
Chemistry	2	L1
Physics	2	L1
Total	27 or 29	
OPTIONS S5		
Economics 4 / Greek / Ancient Greek	4 (or 2 Ancient Greek)	L2/L1/L1
L4 / ONL / Latin	4	L4/ONL/L1
Music / ICT	2	WL/WL
Art	2	WL

The proposals for S4 and S5 are based on the current timetable with a few changes. The principal change is that in S4 (but not in S5) the choice between Maths 4 and Maths 6 is removed. Instead, all students are required to take Maths 4 in mixed ability groups. A concurrent 3-period Maths+ option has been added for advanced students. This is informally known as the 'modular mathematics proposal'. The syllabuses for Maths 4 and Maths+ would be adapted from the current syllabuses for the Maths 4 and Maths 6 courses in S4.

The other change is that whereas currently, options are scheduled independently by each school, according to demand and available resources, in the proposal options are presented as a predictable set of choices, in which a student may choose one per row. While this may prevent schools from exceptionally opening certain options and option combinations, it has the advantage of increased predictability, as students can foresee option clashes and may make informed decisions during the earlier phases. It remains the case that not all options must be given in each language. Unless a derogation is made, an option is not created for less than seven students.

Mathematics

As mentioned, one of the key proposals for S4-S5 concerns the creation of so-called “modular mathematics” in S4. In its December 2013 meeting, the Board of Governors expressed serious doubts as to the pedagogical consequences of this proposal and voted to extend the scope of the evaluation to include S4 and S5. There are also practical considerations. Currently, in S4 students choose between a basic and advanced course in mathematics; these are 4 and 6 periods respectively. If fewer than seven students request either course, then the number of periods for Maths 4 can be reduced from 4 to 3 and for Maths 6 from 6 to 4. If modular mathematics is introduced, then Maths+ takes on the status of an option taught in L1 rather than a core course. In this case, the course will not be offered if seven students from a given language section do not request it. Students will likely be given the option to take the course in a vehicular language if it is available at all. This will disproportionately affect the smaller schools and small language sections, those with class sizes of sixteen students or fewer.

Proposed Organisation of Studies in S6 and S7

In S6 and S7, the proposed curriculum breaks into three specialised courses of study: Science, Economics, Humanities/Languages/Arts. There is a common core of 14 periods with 3 to 5 periods of add-on subjects. Students must choose at least three additional options (for this purpose, advanced courses are not counted as options). Students may choose an additional advanced option, from among three available “appro” options (L1+, L2+, Mathematics+). Advanced Mathematics may only be chosen by students taking Mathematics 5. The total number of periods is a minimum of 29 and a maximum of 35.

	Number of Periods	Language (as a rule)
CORE SUBJECTS S6 and S7		
L1	4	L1
L2	3	L2
Physical Education	2	WL (VL/HCL)
Mathematics	3 or 5 (i.e. 2 add-on)	L1
Cross Curricular Project	1 (only in S6)	Na
Ethics and Religious Studies	2 (1 in S6)	L2
Total	14 or 16	
ADVANCED OPTIONS S6 and S7		
L1+/L2+/Mathematics+	3	L1/L2/L1

In the Science Specialisation, students are obliged to choose at least two options from Biology, Chemistry, ICT, Physics and Geography. Mathematics 5 is compulsory for students choosing Physics. Human Sciences is compulsory for those students not choosing Geography.

SCIENCE SPECIALISATION: COMPULSORY ADD ON		
Human Sciences	3	L2
SCIENCE SPECIALISATION: OPTIONS		
Biology	4	L1
Chemistry/ICT/ONL	4	L1/ONL
Physics/Geography/Latin	4	L1/L2/L1
Greek/L3	4	L1/L3

In the Economics Specialisation, students are obliged to take Economics and at least one of the History or Geography options. General Science is compulsory for those students not choosing scientific options. Mathematics 5 is compulsory for students choosing Physics.

ECONOMICS SPECIALISATION: COMPULSORY ADD ON		
General Science	3	L1
ECONOMICS SPECIALISATION: OPTIONS		
Economics	4	L2
History/ICT/ONL	4	L2/ONL
Physics/Geography/Latin	4	L1/L2/L1
Greek/L3	4	L1/L3

In the Humanities Specialisation, students are obliged to take at least one option from History and Philosophy. General Science is compulsory.

HUMANITIES SPECIALISATION: COMPULSORY ADD ON		
General Science	3	L1
HUMANITIES SPECIALISATION: OPTIONS		
Music/Philosophy	4	WL/L1
History/L4/ONL	4	L2/L4/ONL
Art/Geography/Latin	4	WL/L2/L1
Greek/L3	4	L1/L3

Beginning in S6, the religion/ethics course becomes a non-confessional ethics and religious studies course (still taught in L2). L1 and L2 courses remain 4 and 3 periods respectively, but advanced options are added to allow specialisation in these subjects. Mathematics changes from a 4/6-period course in S5 to a 3/5-period course in S6. Mathematics+ is offered to allow students taking Mathematics 5 to further specialise. (Mathematics+ is not required for scientific options; Mathematics 5 is required for Physics.) All options are 4 periods in S6 and S7, including Art, Music and ICT; options in S6 and S7 are all part of the Baccalaureate examination.

According to this proposal, core and add-on compulsory courses are automatically created, though in some cases with grouping or reduced course hours. If the minimum number of applicants (five students at this level) does not request an option and a derogation is not

granted, then the school allows a second choice from amongst the options created (this may include the same option in another language). Students wishing to take an option from outside of the chosen specialisation will be regarded as independent candidates according to Article 13 of the Baccalaureate regulations.

Cross-Curricular Project (CCP)

Based on the recommendation presented in a report prepared by the University of Cambridge, *International Examinations on the European Baccalaureate*, in their External Evaluation of the European Baccalaureate, a cross curricular project is being proposed. The project is proposed as a 1-period course whereby students work under the tutelage of a teacher-tutor to prepare an extended essay. The administrative details, including a guarantee that pedagogical support will be available, remain vague.

Human Sciences and General Science

The education provided to all European citizens should include structured reflection on scientific and environmental phenomena as well as on the historical, geographical and philosophical aspects of modern society. The complexity of these questions makes it necessary to provide a full programme through to Baccalaureate level.

Human Sciences and General Science are add-on compulsory courses depending on a student's specialisation and option choices. The 3-period courses are intended to cover a range of topics across the disciplines of Biology, Chemistry and Physics for the General Science course and History and Philosophy for the Human Sciences course. It is likely that several teachers will be involved in teaching, according to their area of specialisation. Details of the syllabuses and of the practical organisation of these two courses still have to be developed, which remains a concern to some stakeholders.

The current choice from a number of 2-/4-period options is felt to suffer from several disadvantages, which the proposed courses are intended to address. First, the current requirement in the scientific fields for those not focusing on the sciences (a minimum of 2-period Biology) is viewed as too lightweight and narrow. Second, the acceptance of the 2-period courses in the tertiary education of some member states is in question. And finally, decreasing the sheer number of courses may help consolidate groups and optimise class numbers / resources.

With this set of proposed arrangements, the following problems remain with regards to student choice:

- Early specialisation;
- Choosing between subjects which are not related;
- Choosing between subjects which are related with the consequence that students are likely to be disappointed if they want to specialise in the Humanities, the Natural Sciences or the Social Sciences;
- Because of the arrangement of resources within the system or within the school (i.e. size of classes, L1 distributions of students, possibility of vertical groupings) they may be denied their first choices, with consequent effects on their motivation and the quality of their work;

- By designating some subject areas as 2 period (restricted curriculum) or 4 period (extended curriculum) or 4 period plus (supplementary curriculum), different levels of learning and different types of students are created. This complicates and may distort the process of progression through a subject-based curriculum.

5.5.3 Interparents' Variant

The third version is the proposed re-organisation of studies by Interparents at S6-S7 (adapted from the Interparents' document, 2015-01-D-10-en-1 annex_IOE). In Autumn 2013, Interparents prepared an alternative proposal for S6 and S7. This alternative proposal was officially presented in November 2013. The Interparents' proposal analysed the actual course combinations taken in S6 by students in Brussels and Luxembourg (the so-called "clash tables") and tried to minimize the clashes based on the empirical evidence of courses offered and selected in those schools.

The Interparents' proposal takes many of the elements from the working group proposal with two major differences: 1) the 2-period options are kept in lieu of Natural Sciences and Human Sciences courses; 2) students are allowed to choose between those add-on courses and options presented in a single row; practically speaking, these would be those options that were timetabled simultaneously. It also keeps the possibility for Laboratory courses and offers the space for a new Sociology course.

The proposal requires a minimum of 29 required periods and a maximum of 35 periods, as in the working group proposal. There is a common core of 13 periods with 6 periods of add-on subjects. Students should take at least two, but not more than four 4-period options.

Subject	Number of Periods	Language (as a rule)
CORE SUBJECTS S6 and S7		
L1	4	L1
L2	3	L2
Physical Education	2	WL (VL/HCL)
Mathematics	3 or 5 (i.e. 2 add-	L1
Cross Curricular Project	1	NA
COMPULSORY ADD ONS		
History 2	2	L2
Philosophy 2 / Religion	2	L1/L2?
Biology 2 / Geography 2	2	L1/L2
Mathematics	3 or 5 (i.e. 2 add-	L1
Cross Curricular Project	1	NA
OPTIONS		
Chemistry / Geography 4 / Philosophy	4	L1/L2/L1/WL
Biology 4 / History 4 / Music / ICT	4	L1/L2/WL/WL
Physics / Economics / Sociology / Latin	4	L1/L2/L2/L1
Greek / L3	4	L1/L3
Maths+/L1+/L2+/L4/ONL/Lab	3/3/3/4/4/2	L1/L2/L2/L4/ONL/L1

In the Interparents' proposal, Religion/Ethics becomes an optional course and is timetabled against Philosophy 2. Like the working group proposal, the Interparents' proposal introduces a 4-period ICT option. Beyond this, it also introduces a 4-period Sociology option.

The restrictions are that students may not choose a 2-period and 4-period version of the same subject, and students may not choose two subjects in the same row. Otherwise, they are given considerable leeway to develop their own programme in line with their interests and the requirements of specific national systems.

Core and add-on courses are obligatory with the following exceptions:

- History 2 is compulsory for those not choosing History 4.
- Biology 2 is compulsory for those not choosing Physics, Biology, Chemistry or ICT.
- Geography 2 is compulsory for those students not choosing Geography 4, History 4, Philosophy 4, Economics or Sociology.

It is suggested that the schools should integrate the Cross Curricular Project into the timetable as and if it fits the existing infrastructure and teaching capacities. The subject is conceptualised as a 3-month module. Optionally, in S7 the hour put aside for the Cross Curricular Project could be used for extra-curricular subjects necessary to ensure the admission to a national university (e.g. to enable students independently to follow topics of enquiry which might be needed to fulfil a university admission requirement). The timetable could be modified or adapted by directors taking into account the local needs of the students if the organisation of the school so requires.

The Interparents' proposal is an attempt to take what is best from the current and proposed timetables: the adaptability of the former with the predictability of the latter. Of course, neither the current nor proposed structures guarantee that all options will be offered at each school and in each language. Furthermore the Interparents' variant makes only a marginal difference to our key concern, which is to rationalise the system of core, option and supplementary choices to allow: better progression in the curriculum, better access to higher education, better provision for all children within the system, and a better use of resources (including financial ones).

5.5.4 Conclusions

All three of these proposals (current, proposed and Interparents' variant) suffer from the same problems (but to different degrees):

- The eight mandated competences are marginalised.
- Allowing choices even at the beginning of S6 means that though the overall curriculum may be broad and comprehensive, at the individual level it lacks some breadth and comprehensiveness.
- Allowing choices indicates a degree of early specialisation, which students may regret later. (In many national systems, specialisation occurs at 16 years of age as in the UK or at 14 as in Germany.)

- By allowing more choice at S6-S7 than at S1-S3 and S4-S5 there is a serious problem with subject progression between S1 and S7.
- By offering subjects at different levels, this may affect and distort progression, comprehensiveness and breadth at the individual subject level.

However, if a non-optional curriculum or a restricted optional variant was adopted, then,

- The problems associated with clashing options and with option choices between incompatible subjects would be reduced or eliminated.
- Subject progression is more easily facilitated.
- There are considerable savings in reducing the number of options.
- Class sizes as a result can conform to an educational rationale (optimum size for learning) rather than a bureaucratic one (fitting a large number of option choices into a workable scheme).
- The actual curriculum of the individual student is now more likely to conform to the actual curricula offered by European Universities or by European Institutes of Higher Education.
- Language (of instruction) needs in the schools can be more easily accommodated.

Reducing or eliminating option choices is a radical proposal and there are some costs and risks in either reducing or eliminating choice from the system.

5.6 Designation of Compulsory or Optional Areas

Traditionally courses at the S6 to S7 level have been offered as core and elective modules. There are a number of reasons for this. In order to accommodate a broad and comprehensive curriculum conceived in strongly classified terms (i.e. where there are clear boundaries between subject areas), the only possible arrangements that can be made are to cluster some subjects together and offer choices within those clusters. This has the disadvantage that the clusters and the core subject areas, unless they are carefully designed, may not offer a comprehensive coverage of the curriculum and may allow a neglect of some of the key elements of the curriculum. For example, unless the core (which might include compulsory and clusters of optional subjects) is understood as having an overarching rationale, then it may not be fully comprehensive. What this means is that some students, especially those who specialise early, will follow a narrow curriculum.

We already have an overarching framework, the eight competences. The rationale, therefore, for any arrangement of compulsory and optional subjects should be these eight competences, leading to the European Baccalaureate: communication in the mother tongue; communication in foreign languages; mathematical competence and basic competences in science and technology; digital competence; learning to learn; social and civic competences; sense of initiative and entrepreneurship; cultural awareness and expression. And what this means is that traditional subject arrangements (core + core optional areas or core + choices from a range of clusters of subjects) may not be the best way of translating the competences into a viable curriculum. The Interparents' suggestions for reforming the curriculum, to a degree, neglect the commitment to a new competences curriculum.

On the other hand, there is always a problem with moving from traditional curriculum arrangements to new ones, because teachers, parents and students have over a period of time developed a familiarity with these arrangements, and change is always unsettling. There is also the issue that changing the arrangements for the curriculum may act to reduce the credibility of the European Baccalaureate and thus put at risk students' ability to access higher education. Another implication of changing the curriculum arrangements from a system that allows some choice, to one in which there is little choice, is that this reduced specialisation limits students' capacity to make choices for themselves and to study subjects and areas of the curriculum which have a special interest for them. This could have a negative effect on the motivation of the students. In order to ameliorate these problems, careful planning is essential.

5.7 Streaming and Setting Processes

Often setting and streaming are used as mechanisms in schools to allow for ability grouping and specialisation. Used strictly as a technical term, setting involves students being tested and divided into ability groups for particular subjects. They will then continue through with these groups unless they later are seen to be very much in advance of their group peers, or behind, in which case teachers will arrange for a more appropriate setting for an individual student. With setting, it would be possible to be in, say, a top set for mathematics whilst being in a lower set for, say, science, depending on what was thought to be in the student's best interests. If setting is done sensitively and appropriately, any student in any set should be able to achieve the highest grades; in other words, being in a lower set should not condemn a student to low aspirations, or mean that they need to drop a subject later on. Rather, the teaching needs to be arranged to ensure the most appropriate approach for the students at any given time to ensure the best results. Streaming, on the other hand, is a technical term often used to describe a system when a student will be in a group for most or all of their subjects, regardless of their individual ability in any particular subject. Whilst being in a consistent peer group has advantages for some students, this model of grouping can be rigid as it does not reflect differential ability and prior attainment in individual subjects. In the European Schools system, horizontal grouping or streaming occurs to accommodate L1 competences, i.e. through language sections.

Both setting and streaming come with a number of inherent, and often erroneous, assumptions and expectations, for example:

1. Groups are evenly distributed. In reality, the top and bottom sets or streams may contain statistical outliers, in student ability terms, and the remaining middle groups may largely comprise students of broadly similar ability levels.
2. In order to study a subject at university, the student needs to have been in a top set for this subject, or a top stream, as this demonstrates their ability level. In reality, if setting is carefully organised, its aim should be to achieve a careful match between teaching style and student, in order to maximise attainment.
3. The set or stream where the student starts determines where he or she finishes. Once again, if ability grouping is carefully practised, the groups should be reviewed regularly (at least annually) to ensure a correct fit. The role of puberty, rate of cognitive development, and effect of peer group relationships needs to be

taken into account in the case of all the students, to ensure they are well served by such ability groupings, and there needs to be routine movement up and down accordingly, in consultation with students and parents.

The evidence from primary and secondary education suggests that, overall, structured ability grouping (streaming and setting), of itself has no positive impact on average attainment, and indeed can widen the gap between low- and high-attainers. Therefore as a mechanism for ensuring a good match between teacher style and student learning approaches, it may have some validity as an administrative convenience, but should not be relied upon as a mechanism that automatically leads to improved academic attainment for the majority of students.

In terms of the upper secondary curriculum reorganisations proposed by the European Schools, the term 'streaming' is being used in a different sense, namely as a kind of 'pathway' for different subject areas. This mixing of terms is leading to a degree of confusion. However if we take into account the principles of the Working Group and the Board of Governors (2013-09-D-17-en-5, approved 3, 4 and 5 December 2013), we can see the main issues of concern are rationalising educational programmes, and adjudicating between the conflicting imperatives of relevance, coherence and breadth.

The philosophy of the current proposals requires any curriculum reorganisation to:

- Adapt the studies on offer to *students' interests* faced with the demands of the modern world. (Relevance)
- Take account of the opening up of the European Schools system and of the recommendations made in the different reports: January 2009 University of Cambridge, recent reports of the Chairmen of the European Baccalaureate Examining Board, May 2011 Cavada report. (Relevance)
- Propose solutions for *greater rationalisation* of courses in the secondary cycle. (Coherence)
- Present students with the *same offer of courses* for all the European Schools and Accredited Schools and bring together in a single document information which is currently to be found in various places. (Coherence)
- Guarantee a general education for all students around the *eight key competences* for lifelong learning. (Breadth)

It is also important to consider how the secondary curriculum can best prepare students for access to further and higher education, as this is an understandable ongoing concern for students and their parents. Our recommendation is that the system of language sections is retained, but that all other forms of setting and streaming are abolished, if at all possible. This is therefore relevant to the work being undertaken in the European Schools system on policies related to gifted and talented children, as well as special classes for such students. The argument against the designation of such types of students is complicated; however, we suggest that the adoption of such policies has pedagogic implications not just for these designated students but all the students within the system. In some of the smaller schools language sections cut across year cohorts of students (in order to make viable groups) and we suggest that these practices are only retained if no other arrangements can be made.

5.8 Other Types of Groupings

We need to consider three other important issues that relate to the teaching and learning arrangements made in these European Schools: repeating years, multi-age or multi-grade teaching and the language of instruction.

5.8.1 Repeating Years

Repeating a current grade level the following school year for some students continues to be a common practice in school systems around the world. Arguments in favour of student retention and the reasons to repeat a grade level, include the following: the different levels of maturity exhibited by students; a belief that allowing a student to repeat a year will lead to enhanced performance in the future; a belief that the curriculum is organised in such a way that missing out on some progression steps means that there is no chance of the student accessing later parts of the curriculum, and the threat of retention may motivate students who do not apply themselves in school to invest more effort in their studies.

Research indicates that there is no evidence supporting retention (not being promoted to the next year) as beneficial and that retention may actually be harmful. According to Jimerson *et al.* (2007), research indicates that grade level retention has been shown to enhance a student's learning. While initial academic improvements may occur during the year a student is retained, research studies show that academic achievement gains actually decline within 2-3 years following the repeating of a grade level, suggesting only a temporary positive academic effect of retention.

Further research suggests significant negative effects of retention/repeating a grade level. Some of the negative effects of retention/repeating a grade level are the following: significant financial costs to retaining students; a lowering of self-esteem of retained students; poor rates of school attendance of retained students; noted increases in behavioural problems of these students, including aggressiveness, acting up in the classroom, and a history of suspension or expulsion; and increased drop-out rates. There is some evidence to suggest that when retained children went on to the next grade following the retention of a grade level, they actually performed more poorly on average than if they had gone on without repeating. Typically, students held back do not catch up. Studies suggest that low-performing students learn more when promoted.

5.8.2 Multi-Age or Multi-Grade Teaching

Historically, multi-age grouping preceded the introduction of the age-group paradigm in every country of the world (Little, 2006). The organisation of schools based on the age-group paradigm arose principally in industrial areas as a result of rural-urban migration and the need to accommodate larger numbers of children within existing structures. Although this system has remained in place in parts of the world, some countries have reverted to a multi-age structure for what are claimed to be pedagogical reasons.

Internationally there are many different ways in which schools and classes are organised. Learning and teaching in 'multigrade' classes is an extensive feature of countries in the

developed world, but is by no means limited to these countries (Little, 2006). However, the age-group paradigm is still widely regarded as the norm by teachers in other countries, and many regard mixed age teaching as a poor relation.

5.8.3 Language of Instruction

The language policy of the European Schools has been discussed in chapter three, and here we make a number of recommendations in this regard. Briefly, these are:

1. A language policy needs to be developed that explicitly fosters bilingualism, trilingualism and multilingualism, via a stakeholder inclusive process. This needs to cover the entire period from nursery education to school leaving age.
2. Language objectives need to be integrated into curriculum documents for all content subjects, regardless of whether these subjects are taught through the students' L1, L2 or L3.
3. Secondary level L2 language curricula need to be revised to ensure they integrate more substantive and meaningful content, including cultural content.
4. Assessment policies need to be revisited to make sure they support the language learning mission of the European Schools, in particular the use of formative assessment as a tool for language learning.
5. The quality of teaching and student learning needs to be moved to the top of the policy agenda in order to ensure that the multilingual and multicultural European Schools are primarily learning-powered institutions.
6. Adequate systems need to be securely in place to support language learners with additional needs with regards to the above.
7. SWALS and ONL students are adequately catered for.
8. New curriculum arrangements (S1-S7) are set in place that allow groupings of students (within language sections) that best accommodate the learning needs of all students. The new arrangements set out below better fulfil this purpose.

One of the primary tenets of bilingual education is that it does not simply involve changing the language of instruction. Teaching and learning practices need to change. It is noteworthy that certain teaching and learning practices tend to have a greater impact on student achievement than others. Similarly, studies in bilingual education demonstrate that pedagogy plays a significant role.

No reorganisation of studies can, in and of itself, fully address students' language learning needs or lead them to achieve the levels of language competence needed to study content subjects through their L2 or L3. A primary principle of bi-/multilingual education is that it is not simply a matter of switching the language of instruction, of offering an additional language of instruction. Issues pertinent to language learning need to be distilled and clearly articulated for the entire school community. As a first step, these issues can be expressed through a language policy that would propose a systematic approach to multilingual education. In addition, content subject curricula and pedagogical practices need to support the simultaneous learning of both language and content. (At the moment, generally speaking, they do not do so.) Further, language learning curricula need to be sufficiently content-based to support students in learning those content subjects taught through their L2, L3 and possibly their L4.

5.9 Curriculum Arrangements

In general terms, smaller classes lead to greater opportunities for students to learn. Further, complicated systems of compulsory and optional subjects lead to variability of class size, variability of what can be offered to students in the various schools and variability in learning opportunities. If the system is simplified, rationalised and standardised across the system, then this rationalisation of studies is likely to lead to efficiencies and to lowering of costs (savings can of course be used elsewhere to improve the learning opportunities of students). However, this rationalisation (involving a set of core subjects, based on the eight competences, with fewer option choices being offered) has other curricular implications, which we have discussed above.

Standardisation across the system is another key issue. This relates to centralising and decentralising arrangements within the European Schools system, i.e. whether these decisions about the curriculum should apply to all parts of the system or that different types of schools within the system should be allowed to make these curriculum decisions by themselves. In other words, the choice that needs to be made is between curriculum uniformity within the system or diversity of provision within the system.

6. Ways Forward

The philosophy of the current proposals requires any curriculum reorganisation to be relevant, coherent, comprehensive, and allow breadth of study for all students in the system. We therefore need to consider how a series of pathways might look that offer sufficient coherence, relevance and breadth, whilst still being manageable administratively, and allowing smooth transitions to further and higher education. These are both subject and language oriented. A language practice tracks different language learning opportunities in L1, L2, L3 and L4 from S4 upwards, so there is a pedagogical logic to the way children are engaging with language within the EU Schools.

Moving forwards, it is possible to conceive of a series of educational pathways for students at the European Schools that allows a limited degree of specialisation at upper secondary levels, promoting coherence of study and provision of subject teaching across all schools without sacrificing too much in the way of breadth. An approach such as this is likely to reduce existing coherence problems associated with subject choices at individual schools, as manifested in the yearly 'clash tables', and lead to a greater degree of predictability and parity across all European Schools, minimising local variations.

Such a pathway system (with one option choice at S4-S5 and two option choices at S6-S7):

1. Offers coherence within a pathway to avoid overloading of timetables;
2. Would be easy to replicate across schools in almost all cases, leading to greater parity of provision;
3. Encourages breadth and flexibility through the provision of a limited range of optional subjects, for example, allowing students to continue with Science in addition to a strong focus on Arts or Humanities subjects, or vice versa at S6-S7;
4. Fits coherently with the expectations of university admissions officers in European universities;
5. Introduces more sophisticated and appropriate provision for technological and technical subjects, in keeping with developments globally in terms of higher education and employment, and acknowledging the need for high quality technical and vocational education at school level within Europe.

The approach and arrangements set out below, though they allow a measure of specialisation at S6-S7 still retain the essential quality of being faithful to the eight competences and even more importantly allow for the possibility of subject coherence (though inevitably, as soon as any form of choice is built into the system, individual curriculum coherence is impaired).

6.1 Pathways

There are three age ranges to be considered.

6.1.1 S1-S3

Pathway 1 (Core): Communication

L1 Language and Literature (4 periods per week)

Integrated Themes:

- Reading
- Writing
- Speaking and Listening
- Multi-modality
- Knowledge about Language and Communication
- ICT
- Language and Communication Dispositions

Pathway 2 (Core): First Modern Foreign Language

L2 Language and Literature

(4 periods per week); to include ONL Irish, Finnish, Maltese, Swedish.

Integrated Themes:

- L2 Reading
- L2 Writing
- L2 Speaking and Listening
- Knowledge about L2 Language and Communication
- L2 Language and Communication Dispositions

Pathway 3 (Core): Second Modern Foreign Language

L3 Language and Literature

(4 periods per week); to include ONL Irish, Finnish, Maltese, Swedish.

Integrated Themes:

- L3 Reading
- L3 Writing
- L3 Speaking and Listening
- Knowledge about L3 Language and Communication
- L3 Language and Communication Dispositions

Pathway 4 (Core): Humanities

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Humanities Area of Study.)

- History
- Geography
- Religious Studies and Ethics
- Ancient Civilizations
- Fine Art and History of Art
- Music History and Appreciation
- Law
- Archaeology
- Architecture
- Philosophy

Pathway 5 (Core): Performance and Expressive Studies

(4 periods per week)

Connected Themes:

- Music
- Drama
- Dance
- Art and Design
- Physical Education

Pathway 6 (Core): Science

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Science Area of Study.)

- Physics
- Chemistry
- Biology
- Biochemistry
- Biotechnology
- Technology, including Computer Science
- Earth Science
- Astronomy
- Medicine

Pathway 7 (Core): Social Studies

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Social Studies Area of Study.)

- Psychology
- Sociology
- Statistical Science
- Economics
- Business Studies
- Political Science

Pathway 8 (Core): Mathematics

(4 periods per week)

Integrated Themes:

- Relations between quantities and algebraic expressions
- Ratio and proportional reasoning
- Connecting measurement and decimals
- Spatial and geometrical reasoning
- Reasoning about data
- Reasoning about uncertainty
- Functional relations between variables

S1-S3 – All students take: pathway 1 (four lessons), pathway 2 (four lessons), pathway 3 (four lessons), pathway 4 (four lessons), pathway 5 (four lessons), pathway 6 (four lessons), pathway 7 (four lessons) and pathway 8 (four lessons). [Total = 32 lessons]

6.1.2 S4-S5**Pathway 1 (Core): Communication****L1 Language and Literature**

(4 periods per week)

Integrated Themes:

- Reading
- Writing
- Speaking and Listening
- Multi-modality
- Knowledge about Language and Communication
- ICT
- Language and Communication Dispositions

Pathway 2 (Core): First Modern Foreign Language**L2 Language and Literature**

(4 periods per week); to include ONL Irish, Finnish, Maltese, Swedish.

Integrated Themes:

- L2 Reading
- L2 Writing
- L2 Speaking and Listening
- Knowledge about L2 Language and Communication
- L2 Language and Communication Dispositions

Pathway 3 (Core): Second Modern Foreign Language**L3 Language and Literature**

(4 periods per week); to include ONL Irish, Finnish, Maltese, Swedish.

Integrated Themes:

- L3 Reading
- L3 Writing
- L3 Speaking and Listening
- Knowledge about L3 Language and Communication
- L3 Language and Communication Dispositions

Pathway 4 (Core): Humanities

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Humanities Area of Study.)

- History
- Geography
- Religious Studies and Ethics
- Ancient Civilizations
- Fine Art and History of Art
- Music History and Appreciation
- Law
- Archaeology
- Architecture
- Philosophy

Pathway 5 (Core): Performance and Expressive Studies

(4 periods per week)

Connected Themes:

- Music
- Drama
- Dance
- Art and Design
- Physical Education

Pathway 6 (Core): Science

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Science Area of Study.)

- Physics
- Chemistry
- Biology
- Biochemistry
- Biotechnology
- Technology, including Computer Science
- Earth Science
- Astronomy
- Medicine

Pathway 7 (Core): Social Studies

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Social Studies Area of Study.)

- Psychology
- Sociology
- Statistical Science
- Economics
- Business Studies
- Political Science

Pathway 8 (Core): Mathematics

(4 periods per week)

Integrated Themes:

- Relations between quantities and algebraic expressions
- Ratio and proportional reasoning
- Connecting measurement and decimals
- Spatial and geometrical reasoning
- Reasoning about data
- Reasoning about uncertainty
- Functional relations between variables

Pathway 9 (Core): Option Choice

Options offered in Pathway 8 depend on the availability of resources and the grouping possibilities within each school. What this means is that not all these subjects will be offered in the curriculum of individual schools. These are traditional or fragmented subject areas. Students choose one option from the following:

- L4
- Latin
- Ancient Greek
- History
- Geography
- Religious Studies and Ethics
- Ancient Civilizations
- Fine Art and History of Art
- Music History and Appreciation
- Law
- Archaeology
- Architecture
- Philosophy
- Music
- Drama
- Dance
- Art and Design
- Physical Education
- Physics
- Chemistry
- Biology
- Biochemistry
- Biotechnology
- Technology
- Computer Science
- Earth Science
- Astronomy
- Medicine

- Psychology
- Sociology
- Statistical Science
- Economics
- Business Studies
- Political Science

S4-S5 – All students take: pathway 1 (four lessons), pathway 2 (four lessons), pathway 3 (four lessons), pathway 4 (four lessons), pathway 5 (four lessons), pathway 6 (four lessons), pathway 7 (four lessons), pathway 8 (four lessons) and choose one option (four lessons). [Total = 36 lessons.] Options offered in Pathway 9 depend on the availability of resources and the grouping possibilities within each school.

6.1.3 S6-S7

Pathway 1 (Core¹): Communication

L1 Language and Literature

(4 periods per week)

Integrated Themes:

- Reading
- Writing
- Speaking and Listening
- Multi-modality
- Knowledge about Language and Communication
- ICT
- Language and Communication Dispositions

¹ Students who choose the Communication stream in Pathways 8 and 9 are not required to take Pathway 1 (Core): Communication.

Pathway 2 (Core²): Modern Foreign Languages

L2 Language and Literature

(4 periods per week); to include ONL Irish, Finnish, Maltese, Swedish.

Integrated Themes:

- L2 Reading
- L2 Writing
- L2 Speaking and Listening
- Knowledge about L2 Language and Communication
- L2 Language and Communication Dispositions

² All students who choose the language stream in Pathways 8 and 9, are required to take Pathway 2 (Core): Modern Foreign Languages, and in addition have to choose between Pathways 8 and 9.

Pathway 3 (Core³): Humanities

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Humanities Area of Study.)

- History
- Geography
- Religious Studies and Ethics
- Ancient Civilizations
- Fine Art and History of Art
- Music History and Appreciation
- Law
- Archaeology
- Architecture
- Philosophy

³ Students who choose the Humanities stream in Pathways 8 and 9 are not required to take Pathway 3 (Core): Humanities.

Pathway 4 (Core⁴): Performance and Expressive Studies

(4 periods per week)

Connected Themes:

- Music
- Drama
- Dance
- Art and Design
- Physical Education

⁴ Students who choose the Performance and Expressive Studies stream in Pathways 8 and 9 are not required to take Pathway 4 (Core): Performance and Expressive Studies.

Pathway 5 (Core⁵): Science

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Science Area of Study)

- Physics
- Chemistry
- Biology
- Biochemistry
- Biotechnology
- Technology, including Computer Science
- Earth Science
- Astronomy
- Medicine

⁵ Students who choose the Science stream in Pathways 8 and 9 are not required to take Pathway 5 (Core): Science.

Pathway 6 (Core⁶): Social Studies

(4 periods per week)

Integrated Themes: (These are not subjects but elements of subjects forming a Social Studies Area of Study.)

- Psychology
- Sociology
- Statistical Science
- Economics
- Business Studies
- Political Science

⁶ Students who choose the Social Studies stream in Pathways 8 and 9 are not required to take Pathway 6 (Core): Social Studies.

Pathway 7 (Core⁷): Mathematics

(4 periods per week)

Integrated Themes:

- Relations between quantities and algebraic expressions
- Ratio and proportional reasoning
- Connecting measurement and decimals
- Spatial and geometrical reasoning
- Reasoning about data
- Reasoning about uncertainty
- Functional relations between variables

⁷ Students who choose the Mathematics stream in Pathways 8 and 9 are not required to take Pathway 7 (Core): Mathematics

Pathway 8: Options (1)⁸

Students choose between streams. They are only allowed to make one choice from their stream in this pathway. These are traditional or fragmented subject areas. (Four periods per week)

Stream 1: Communication Baccalaureate

- Elementary Language and Communication

Stream 2: Language Baccalaureate

- L3
- L4
- Latin
- Ancient Greek

Stream 3: Humanities Baccalaureate

- History
- Geography
- Religious Studies and Ethics
- Ancient Civilizations
- Fine Art and History of Art
- Music History and Appreciation
- Law
- Archaeology
- Architecture
- Philosophy

Stream 4: Performative and Expressive Baccalaureate

- Music
- Drama
- Dance
- Art and Design
- Physical Education

Stream 5: Science Baccalaureate

- Physics
- Chemistry
- Biology
- Biochemistry
- Biotechnology
- Technology, including Computer Science
- Earth Science
- Astronomy
- Medicine

Stream 6: Social Studies Baccalaureate

- Psychology
- Sociology
- Statistical Science
- Economics
- Business Studies
- Political Science

Stream 7: Mathematics Baccalaureate

- Elementary Mathematics

Stream 8: Applied Studies Baccalaureate⁹

- Subject A
- Subject B

⁸ Options offered in the streams depend on the availability of resources and the grouping possibilities within each school.

⁹ Students choosing this stream would not be required to take Pathway 6.

Pathway 9: Options (2)¹⁰

Students choose between streams. They are only allowed to make one choice from their stream in this pathway. These are traditional or fragmented subject areas.
(Four periods per week)

Stream 1: Communication Baccalaureate

- Advanced Language and Communication

Stream 2: Language Baccalaureate

- L3
- L4
- Latin
- Ancient Greek

Stream 3: Humanities Baccalaureate

- History
- Geography
- Religious Studies and Ethics
- Ancient Civilizations
- Fine Art and History of Art
- Music History and Appreciation
- Law
- Archaeology
- Architecture
- Philosophy

Stream 4: Performative and Expressive Bacculaureate

- Music
- Drama
- Dance
- Art and Design
- Physical Education

Stream 5: Science Bacculaureate

- Physics
- Chemistry
- Biology
- Biochemistry
- Biotechnology
- Technology, including Computer Science
- Earth Science
- Astronomy
- Medicine

Stream 6: Social Studies Bacculaureate

- Psychology
- Sociology
- Statistical Science
- Economics
- Business Studies
- Political Science

Stream 7: Mathematics Bacculaureate

- Additional Mathematics

Stream 8: Applied Studies Bacculaureate

- Vocational Subject A
- Vocational Subject B

¹⁰ Options offered in the streams depend on the availability of resources and the grouping possibilities within each school.

6.1.4 Student Routes at S6 and S7

- Student One (Communication Bacculaureate): Pathway 2, Pathway 3, Pathway 4, Pathway 5, Pathway 6, Pathway 7, Pathway 8 - Stream 1, Pathway 9 – Stream 1.
- Student Two (Language Bacculaureate): Pathway 1, Pathway 3, Pathway 4, Pathway 5, Pathway 6, Pathway 7, Pathway 8 – Choice from Stream 2, Pathway 9 – Complementary Choice from Stream 2.
- Student Three (Humanities Bacculaureate): Pathway 1, Pathway 2, Pathway 4, Pathway 5, Pathway 6, Pathway 7, Pathway 8 – Choice from Stream 3, Pathway 9 – Complementary Choice from Stream 3.

- Student Four (Performative and Expressive Baccalaureate): Pathway 1, Pathway 2, Pathway 3, Pathway 5, Pathway 6, Pathway 7, Pathway 8 – Choice from Stream 4, Pathway 9 – Complementary Choice from Stream 4.
- Student Five (Science Baccalaureate): Pathway 1, Pathway 2, Pathway 3, Pathway 4, Pathway 6, Pathway 7, Pathway 8 – Choice from Stream 5, Pathway 9 – Complementary Choice from Stream 5.
- Student Six (Social Studies Baccalaureate): Pathway 1, Pathway 2, Pathway 3, Pathway 4, Pathway 5, Pathway 7, Pathway 8 – Choice from Stream 6, Pathway 9 – Complementary Choice from Stream 6.
- Student Seven (Mathematics Baccalaureate): Pathway 1, Pathway 2, Pathway 3, Pathway 4, Pathway 5, Pathway 6, Pathway 8 – Stream 7, Pathway 9 – Stream 7.

The issue of whether students need to take an advanced Mathematics course as a requirement for university entry to study physics, for example, would depend on the level of Mathematics offered in Pathway (core) seven, and, more importantly, on how the Science stream curriculum was constructed, so that it is inclusive of those knowledge constructs, skills and dispositions designated as advanced and in relation to Mathematics.

6.1.5 Language of Instruction

A series of decisions have to be made about the language of instruction for the range of courses in the new curriculum (see below). Because the EU schools vary so much in size and organizational arrangements, then compromises may have to be made with regards to our model for language of instruction in the new curriculum. This refers to the dominant language used in the classroom. However, teachers who are highly proficient, i.e. have native-like fluency in other languages than their first language, can be deemed qualified from a language perspective to teach these classes. The ideal model that we offer here has to take account of a range of distinct types of groupings:

- One L1s: Groups in which students have the same L1 or native-like proficiency in the L1;
- Mixed L1s: Groups in which there are more than two different L1s represented among the students;
- Students without a Language Section (SWALS);
- Subject-specific pathway courses where there is one teacher for the whole of the course;
- Subject-specific pathway courses where there is more than one teacher for the course;
- Subject-specific pathways related to a modern foreign language.

Course	One L1	Mixed Groups	SWALS	One Teacher	More than one Teacher	Modern Foreign Language
Communication L1 Language and Literature – S1-S3	L1	L1	L1	L1	L1	
First Modern Foreign Language – S1-S3	L2	L2	L2 (supported)	L2		Language of MFL
Second Modern Foreign Language – S1-S3	L3	L3	L3 (supported)	L3		Language of MFL
Humanities – S1-S3	L2	L2 of the Majority	L2 of the Majority (supported)	L2	L2	
Performance and Expressive Studies – S1-S3	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Social Studies – S1-S3	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Science – S1-S3	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Mathematics – S1-S3	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Communication L1 Language and Literature – S4-S5	L1	L1	L1	L1	L1	
First Modern Foreign Language – S4-S5	L2	L2	L2 (supported)	L2		Language of MFL
Second Modern Foreign Language – S4-S5	L3	L3	L3 (supported)	L3		Language of MFL
Humanities – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2	L2	
Performance and Expressive Arts – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Social Studies – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Mathematics – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		

L4 – S4-S5	L4	L4	L4 (supported)	L4		Language of MFL
Latin – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Ancient Greek – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
History – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Geography – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Religious Studies and Ethics – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Ancient Civilizations – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Fine Art and History of Art – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Music History and Appreciation – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Law – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Archaeology – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Architecture – S4-S5	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Philosophy – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Music – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Drama – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		

Dance – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Art and Design – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Physical Education – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Physics – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Chemistry – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Biology – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Biochemistry – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Biotechnology – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Technology – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Computer Science – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Earth Science – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Astronomy – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		

Medicine – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Psychology – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Sociology – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Statistical Science – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Economics – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Business Studies – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Political Science – S4-S5	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Language and Communication (L1) – S6-S7	L1	L1	L1 (supported)	L1	L1	
Elementary Language and Communication (L1) – S6-S7	L1	L1	L1 (supported)	L1	L1	
Advanced Language and Communication (L1) – S6-S7	L1	L1	L1 (supported)	L1	L1	
Language and Communication (L2) – S6-S7	L2	L2	L2 (supported)	L2		Language of MFL
Mathematics – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		

Science– S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Expressive and Performative Studies– S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Social Studies– S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1	L1	
Humanities – S6-S7	L2	L1 of the Majority	L1 of the Majority (supported)	L2	L2	
Elementary Mathematics – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Advanced Mathematics – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
L3 – S6-S7	L3	L3	L3 (supported)	L3		Language of MFL
L4 – S6-S7	L4	L4	L4 (supported)	L4		Language of MFL
Latin – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Ancient Greek – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
History – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Geography – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Religious Studies and Ethics – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Political Science – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		

Fine Art and History of Art – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Music History and Appreciation – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Law – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Archaeology – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Architecture – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Philosophy – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Music – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Drama – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Dance – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Art and Design – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Ancient Civilizations – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L2		
Physics – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Chemistry – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Biology – S6-S7	L1	L1 of the Majority	L1 of the Majority	L1		

		Majority	(supported)			
Biochemistry – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Biotechnology – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Technology – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Computer Science – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Earth Science – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Astronomy – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Medicine – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Psychology – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Sociology – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Statistical Science – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Economics – S6-S7	L1	L1 of the Majority	L1 of the Majority (supported)	L1		
Business Studies – S6-S7	L2	L2 of the Majority	L2 of the Majority (supported)	L1		

6.1.6 Timetabling

- There are now nine slots on the timetable for S4-S7, each of them equates to four periods. At S1-S3 there are eight slots on the timetable. [Total Number of Periods S1-S3 = 32; S4-S5=36; S6-S7=36.]
- Pathway 9 (S4-S5) and Pathways 8 and 9 (S6-S7) have their own timetabled slots.
- The majority of core and option subjects at S1-S3, S4-S5 and S6-S7 are taught by one teacher. In some core subjects (i.e. Humanities, Social Studies, Expressive and Performative Arts) there may be a need to teach the subject using more than one teacher. This depends on the make-up of the new curriculum for these core subjects and the availability of teachers to teach either the whole or specific parts. In all these cases the language of instruction should be the same across the subject.

6.2 The Baccalaureate

6.2.1 The European Schools Baccalaureate

This is a summative form of assessment. Currently:

- Candidates take three oral examinations.
- Candidates take five written examinations: Language 1 or Advanced Language 1, Language 2 or Advanced Language 2, Mathematics (5 periods) or Mathematics (3 periods), Option (4 periods) and Option (4 periods).
- The following three factors are taken into consideration for the Baccalaureate: the average preliminary mark C expressed out of 100, the average written examinations mark W expressed out of 100, and the average oral examinations mark O expressed out of 100.
- The proportion of the final total mark for the examination allotted to the various parts will be as follows: 50 per cent for the average preliminary mark C, 35 per cent for the average W for the written examinations, and 15 per cent for the average O for the oral examinations. The final result = $0.50 C + 0.35 W + 0.15 O$.
- The preliminary mark is made up of the following: class marks (A marks) and part examination marks (B marks).
- Class marks account for 20 marks out of 50 for purposes of calculating the preliminary mark (C mark). A class mark will be given for each subject taken in year 7, with the exception of religion/ethics, at the end of each semester.
- The marks for the examinations part will account for 30 marks out of 50 for purposes of calculating the preliminary mark (C mark). A mark will be given for each subject, with the exception of religion/ethics, on the basis of the results obtained in the part examination.
- The following can be the subject of written and oral examinations: compulsory subjects (with the exception of physical education and religion/ethics), options, and advanced subjects.

6.2.2 New Arrangements

It is suggested that:

- Baccalaureate Rules are amended so that each student takes eight examinations – the determination of each of these examinations, i.e. whether it includes oral, coursework and/or written papers, and the relations between them, is discussed below.
- Forms of discriminatory groupings, such as streaming, setting, multi-age and multi-grade arrangements, are minimised insofar as resources within the system and institutions allow this to happen.
- The nine-year upper tenure limit for European Schools teachers, and the loss of organizational knowledge that is associated with removing these skilled practitioners at the end of their tenure, often to be replaced with a Chargé de Cours (locally hired) teacher who is not appointed via the same route, is reviewed.
- Candidates take eight examinations: Language and Communication (L1), Mathematics, Language and Communication (L2), Humanities, Expressive and Performative Studies, Science, Social Studies, Option 1, Option 2. In Option 1, students choose between streams. They are only allowed to make one choice from their stream in this pathway. In Option 2, students choose between streams. They are only allowed to make one choice from their stream in this pathway.
- Each examination consists of four elements: coursework, practical, oral and a written paper. The proportion of the final total mark for the examination allotted to the various parts depends on the curriculum content (i.e. knowledge constructs, skills and dispositions) of the subject area. In other words, not every subject should be tested through all four elements, but only through those elements that refer to the type of curriculum content of the subject (see below). For example, Language and Communication (L1) is tested through 30% coursework (C), 20% oral (O) and 50% written examination (WE). The final result = $0.30\text{ C} + 0.20\text{ O} + 0.50\text{ WE}$.
- Class marks are no longer awarded as this is a summative examination.
- Coursework assignments are handed in by the student six months before the date of the examination in each subject. Orals and practicals are conducted one month before the date of the examination in each subject. Coursework, oral and practical completion and assessment rules need to be written.

The following principles apply to coursework completion and assessment:

- Subject-specific task(s) are generated by the inspectors for each area of the curriculum that is awarding coursework marks. Each coursework task is criterion-referenced with those criteria being open and available to students. Marks are allocated to each criterion and made public.
- Coursework is completed in non-regulated settings.
- Coursework is marked by the teacher, sample-moderated by the Baccalaureate office, and sample-moderated by an external examiner (to the system), who in addition would benchmark the marking against comparable systems.
- Marks would not be released until the final examination result had been declared.

The following principles apply to oral completion and assessment.

- Oral questions and tasks are generated by the inspectors and the Bacculaureate Office for each area of the curriculum that is awarding oral marks. Each oral assessment is criterion-referenced with those criteria being open and available to students. Marks are allocated to each criterion and made public.
- Oral assessments are completed in regulated settings.
- Oral assessments are conducted and marked by the teacher and audio-recorded. These oral recordings are sample-moderated by the Bacculaureate office and the inspectors, and sample-moderated by an external examiner (to the system), who in addition would benchmark the marking against comparable systems.
- Marks would not be released until the final examination result had been declared.

The following principles apply to practical completion and assessment:

- Subject-specific tasks are generated by the inspectors and the Bacculaureate Office for each area of the curriculum that is awarding practical marks. Each practical task is criterion-referenced with those criteria being open and available to students. Marks are allocated to each criterion and made public.
- Practicals are completed in regulated settings.
- Practicals are marked by the teacher, sample-moderated by the Bacculaureate Office and the inspectors, and sample-moderated by an external examiner (to the system), who in addition would benchmark the marking against comparable systems.
- Marks would not be released until the final examination result had been declared.

The following principles apply to written paper completion and assessment:

- Subject-specific written papers are generated by the inspectors and the Bacculaureate Office, one paper for each area of the curriculum that is being examined by a written paper. Each written paper is criterion-referenced with those criteria being open and available to students. Marks are allocated to each criterion and made public.
- Written papers are completed in regulated settings and invigilated by the teachers.
- Written papers are marked by teachers from other schools or by the Bacculaureate Office or by the appropriate inspectors, sample-moderated by the Bacculaureate Office and the Inspectorate, and sample-moderated by an external examiner (to the system), who in addition would benchmark the marking against comparable systems.
- Marks would not be released until the final examination result had been declared.

The Bacculaureate is awarded with a percentage average of the total marks awarded in each subject. For example, a student is awarded the following marks:

• Language and Communication (L1)	20C	15O	40WE = 75
• Language and Communication (L2)	10C	18O	30WE = 58
• Mathematics	15C		35WE = 50
• Performative and Expressive Studies	10C	38P	24WE = 72
• Social Studies	15C		34WE = 49
• Humanities	15C		27WE = 42
• Physics	13C	12P	40WE = 65
• Chemistry	21C	18P	32WE = 71
Baccalaureate Total = 60.25			Total = 482

In addition, this student is awarded a Science Baccalaureate.

Consideration could be given to differential weighting of marks between core and option subjects. Table Two below sets out the proportions of marks allocated to the four elements of the examination: coursework, oral, practical, written paper.

Subject	Coursework	Practical/ Oral	Examination
Language and Communication (L1)	30%	20% O	50%
Elementary Language and Communication (L1)	30%	20% O	50%
Advanced Language and Communication (L1)	30%	20% O	50%
Language and Communication (L2)	30%	20% O	50%
Mathematics	30%		70%
Science	25%	25% P	50%
Expressive and Performative Studies	20%	40% P	40%
Social Studies	30%		70%
Humanities	30%		70%
Elementary Mathematics	30%		70%
Advanced Mathematics	30%		70%
L3	30%	20% O	50%
L4	30%	20% O	50%
Latin	30%		70%
Ancient Greek	30%		70%
History	30%		70%
Geography	30%		70%
Religious Studies and Ethics	30%		70%
Political Science	30%		70%
Fine Art and History of Art	30%		70%
Music History and Appreciation	30%		70%
Law	30%		70%
Archaeology	30%		70%
Architecture	30%		70%
Philosophy	30%		70%
Music	20%	40% P	40%
Drama	20%	40% P	40%
Dance	20%	40% P	40%
Art and Design	20%	40% P	40%
Ancient Civilizations	30%		70%
Physics	25%	25% P	50%
Chemistry	25%	25% P	50%
Biology	25%	25% P	50%
Biochemistry	25%	25% P	50%

Biotechnology	25%	25% P	50%
Technology	25%	25% P	50%
Computer Science	25%	25% P	50%
Earth Science	25%	25% P	50%
Astronomy	25%	25% P	50%
Medicine	25%	25% P	50%
Psychology	25%	25% P	50%
Sociology	25%	25% P	50%
Statistical Science	25%	25% P	50%
Economics	30%		70%
Business Studies	25%	25% P	50%

6.2.3 The European Schools Baccalaureate Unit

This unit with the inspectors would have the following responsibilities:

1. Setting the tasks for the four elements of the examination: coursework, oral, practical and written paper, and ensuring that the tasks comprehensively cover the syllabuses.
2. Writing the marking criteria for the four elements of the examination.
3. Constructing the marking grid for all the elements of the examination.
4. Co-ordinating the examination in the schools.
5. Sample moderating the four elements of the examination.
6. Coordinating the work of the external examiner.
7. Publishing the final awards.
8. Liaising with the European University Sector to ensure the credibility of the European Schools System Baccalaureate.

6.3 The Curriculum and Pedagogic Unit

6.3.1 Functions

The Curriculum and Pedagogic Unit would have three general functions:

1. Write the new curricula for the following courses (i.e. curriculum standards, pedagogic approaches and assessment protocols), depending on demand and available resources in the schools:

S1-S3

Core Communication L1 Language and Literature
Core Modern Foreign Languages L2 Language and Literature
Core Humanities
Core Performance and Expressive Studies
Core Science
Core Social Science
Core Mathematics

S4-S5

Core Communication L1 Language and Literature
Core Modern Foreign Languages L2 Language and Literature
Core Humanities
Core Performance and Expressive Studies
Core Science
Core Social Science
Core Mathematics
Option L3
Option L4
Option Latin
Option Ancient Greek
Option History
Option Geography
Option Religious Studies and Ethics
Option Ancient Civilizations
Option Fine Art and History of Art
Option Music History and Appreciation
Option Law
Option Archaeology
Option Architecture
Option Philosophy
Option Music
Option Drama
Option Dance
Option Art and Design
Option Physics
Option Chemistry
Option Biology
Option Biochemistry
Option Biotechnology
Option Technology
Option Computer Science
Option Earth Science
Option Astronomy
Option Medicine
Option Psychology
Option Sociology
Option Statistical Science
Option Economics
Option Business Studies
Option Political Science

S6-S7

Core Communication L1 Language and Literature
Core Modern Foreign Languages L2 Language and Literature
Core Humanities
Core Performance and Expressive Studies
Core Science
Core Social Science
Core Mathematics
Option Elementary Communication L1 Language and Literature
Option Advanced Communication L1 Language and Literature
Option Elementary Mathematics
Option Advanced Mathematics
Option L3
Option L4
Option Latin
Option Ancient Greek
Option History
Option Geography
Option Religious Studies and Ethics
Option Ancient Civilizations
Option Fine Art and History of Art
Option Music History and Appreciation
Option Law
Option Archaeology
Option Architecture
Option Philosophy
Option Music
Option Drama
Option Dance
Option Art and Design
Option Physics
Option Chemistry
Option Biology
Option Biochemistry
Option Biotechnology
Option Technology
Option Computer Science
Option Earth Science
Option Astronomy
Option Medicine
Option Psychology
Option Sociology
Option Statistical Science
Option Economics
Option Business Studies
Option Political Science

2. Renew the syllabuses to keep them up-to-date.
3. Develop and implement an in-service programme of study for teachers

This programme would have the following general learning outcomes (sometimes expressed as curriculum standards) for the practising teacher. Each teacher should:

- Update their body of knowledge (which includes cognitions, skills and dispositions) that constitutes the content knowledge domain in teaching.
- Understand how this reconstituted body of knowledge (which includes cognitions, skills and dispositions) can be translated into pedagogic knowledge, and strengthen the capacity to translate the one into the other.
- Update their body of knowledge (which includes cognitions, skills and dispositions) relating to the four foundational forms of knowledge, i.e. psychology of education, sociology of education, history of education, and philosophy of education; and their applications in schools.
- Update their understandings of systemic and institutional educational structures in Europe.
- Undertake action research projects and take part in teacher learning communities, and be supported in this activity.
- Reconstitute their classroom teaching dispositions relating to performance, behaviour, communication, and relations with students.
- Strengthen their capacity to apply knowledge, skills and dispositions in educational settings.
- Strengthen their capacity to behave in ethically appropriate ways in different circumstances.
- Strengthen their capacity to appropriate and apply professional standards in real-life educational settings.
- Strengthen their capacity for independent and workplace learning over the life-span of a professional career in the European School System.
- Reconstitute those strategies that relate to classroom management, with particular reference to the maintenance of discipline and maintaining a positive learning environment.
- Revisit the general principles of learning, and in particular, how all learning is context-specific and related to developmental stage; reconstitute those strategies for applying each of the theories of learning in the classroom; strengthen their capacity to apply the various teaching and learning strategies in the classroom; and strengthen those dispositions which are required for implementation of these teaching strategies.
- Strengthen their capacities for, and dispositions relating to planning.
- Regenerate their capacity to read and construct educational texts, such as curricula, syllabuses, textbooks, policy and media documents, where those capacities refer to critical thinking, educational literacy, re-conceptualisation, and textual application.
- Continue to use the spoken and written language clearly, fluently and appropriately to interact in different educational contexts; and recognise and appreciate Europe's linguistic diversity.
- Continue to use arguments and reasoning when analysing situations, identifying

problems, formulating questions, expressing judgements and providing solutions to problems.

- Select, analyse, evaluate and share information from different sources, and use the technical resources available for in-depth study and continuous extension of their knowledge.
- Be familiar with the human rights and values that favour democratic life in Europe, putting them into practice when analysing situations and making decisions responsibly and in accordance with the law.
- Recognise and value different cultural practices and processes, and contribute to respectful coexistence with regards to social, ethnic, cultural and linguistic diversity.
- Continue to develop knowledge of self; the capacity to project the self in present and future educational settings; and the capacity to regulate the self.
- Care for and maintain high professional standards throughout a working career.

6.3.2 Teacher Professional Development

A further improvement strategy for schools is providing opportunities for teachers to develop their practice. Apart from the content and methodological knowledge that European School teachers need in order to plan and teach a lesson, they also have to take a variety of other factors into consideration and integrate them in a coherent, efficient and pedagogically effective way. Among these are the previous knowledge, schooling biographies and expectations of their students, the individual differences between them (e.g. abilities, interests and motivations), the objectives of the programme and the overall institution, as well as their own pedagogical aims, theoretical assumptions and values. Teachers have to make a considerable number of instantaneous and ad hoc decisions: they need to react to and take the lead in classroom interactions and modify their plans and methodological procedures according to the needs of students at specific points in time during the lesson. Ideally they should create an atmosphere that encourages learning and communication and make sure that the task level is neither too high nor too low. In addition to this, institutions as well as classes have their own particular norms and patterns of interaction and communication. Teachers play a key role in mediating between this institutional culture and the students. They usually determine the content of classroom talk, organize the distinct phases of the lesson, determine the behaviour that is expected from students, select who is permitted to respond to a question or contribute to a discussion, decide what kind of answers are regarded as valid, and so forth.

The fact that teachers have to take a multitude of sequential and simultaneous decisions which include personal, interpersonal, interactive, disciplinary, pedagogic and institutional factors requires a new approach to in-service teacher-training and development. Imposing a pre-defined and fixed innovation on teachers (and students) in diverse institutional and regional contexts in a coercive, top-down fashion is counter-productive and likely to make teachers revert to 'safe' routinised practices. It seems more promising to encourage practitioners to try out new ideas in their classroom, to make adjustments, generate new material and justify their decisions. To this end an awareness of the contexts teachers work in and their own behavioural and communicative patterns has to be developed. Participants have to be enabled to analyse their own classes, strengthen their communicative

competencies and classroom management strategies, and amplify their pool of teaching resources.

Although the concept of the 'reflective practitioner' (Schon, 2005) has become extremely influential in teacher education and training, the concept has also, sometimes been used as a slogan. It is therefore crucial to make concrete suggestions about how reflexivity can be fostered in professional development workshops. The following list constitutes an amplified version of the practical suggestions we consider particularly useful for the present context:

- Teachers familiarise themselves with the new ideas, their objectives, rationale, contents and procedures and experiment with these elements in their actual classrooms. They engage in processes of developing their professional practice and at the same time adapt, refine and contribute to the refinement of the curriculum being implemented.
- Teachers reflect on their past and current teaching practice e.g. through a teacher portfolio or a professional autobiography, two genres in which they can explore, either privately or publicly, their own development, positive and critical experiences which have shaped their career, changing goals, values and expectations among other issues.
- They reflect upon their professional practices, routine activities and values in their institutional, socio-cultural, economic and political context, i.e. from different angles and perspectives. This might encourage the redefinition and re-conceptualisation of problems and their potential solutions.
- Practitioners share teaching material and exchange views of and experiences with particular pedagogic strategies with peers. This allows them to get to know alternatives and to amplify their own pool of resources.
- They look beyond their own classroom through peer coaching, team teaching and classroom observation. Again, they can learn from others and contribute to the learning of their peers.
- Teachers are introduced to and employ methods of analyzing classroom interaction and communication in relation to contextual affordances and constraints.
- They may seek feedback from their students who are a great but often underrated source of teacher development for example, through individual and group journals and discussions. They also monitor students' development and learning.
- Practitioners connect with the existing knowledge base and research either through professional or academic publications that relate to specific relevant issues, such as for example, classroom management or student motivation. These readings could be shared as a stimulus for professional dialogue among peers.
- Teachers engage in collaborative inquiry, e.g. through action research.
- They share and publish the generated knowledge so that it can inform practices in other schools and contribute to a pool of resources for all teachers involved.

This list can obviously be amplified and adapted according to particular needs that arise in the process. In the following section we will outline the goals and procedures of Action Research.

6.3.3 Action Research

One area that attempts to overcome the gap between theory and teaching practice by involving teachers as agents in actual investigations is *Action Research* (AR). Action Research seeks to solve practical, mostly classroom-based problems and to foster the practical judgment of actors in real situations. Involving teachers in curriculum development and implementation allows practitioners to 'own' the knowledge they generate. It is assumed that innovation is more likely to be accepted if teachers are involved in the design of materials that is relevant for their students and adapted to their needs. Since curriculum development depends upon a high level of professional judgment, it is appropriate to build professional development around a teacher-as-local-expert model.

This comprises a series of steps:

- Areas of practical concern are identified:
What is the focus of enquiry?
- These areas of concern are expressed as questions:
What question needs to be answered to understand and solve the problem?
- The purpose is identified:
What is the enquiry for?
Who benefits from the investigation?
- Evidence is collected to enable these questions to be answered:
What do we already know about the focus for enquiry?
What do we need to know in order to answer the question?
How can we access this information?
- This allows the practitioners to modify their perceptions about their practice, to identify change mechanisms and to evaluate the state of readiness of the school and the individual participants:
Does the empirical data confirm our hypothesis?
Has the data changed our understanding of the problem?
Who needs to be involved in the change?
Are these individuals in favour of the change?
- Changes are made by the practitioner to their practice.
- The effects of these changes are monitored and evaluated:
What kind of effects does the intervention have?
Are these the effects we expected?
What needs to be changed in order to bring about the desired effects?
- The experiences and new insights are shared with others in similar contexts:
How and where do we share the outcomes?
- A new research programme is instituted:
Where does this investigation lead to?
What will happen next?
- And the practitioner starts a new action research cycle.

The knowledge created through Action Research is both unique and generalisable. It originates in a particular institutional context with particular agents but it can at the same

time inform practices in other schools and contribute to their pool of resources whenever the unique characteristics of the original context are made explicit.

Action Research is based on democratic procedures and values and can involve reflection upon the internal dynamics of the workplace, i.e. the way students, teachers and administrators interrelate and interact in an institution. Ideally, Action Research projects emphasize collaboration, access to and sharing of information and knowledge, open-mindedness and dialogue. Building and sustaining Teacher Learning Communities (TLCs) is hence an essential precondition for effective Action Research cycles.

6.3.4 Teacher Learning Communities and Collaborative Enquiry

Interpersonal and interdisciplinary exchange and collaboration still seems to be the exception rather than the rule and teachers work in a fairly isolated fashion. Effective professional development should not only encourage reflection and lifelong learning on an individual level but also collaboration through Teacher Learning Communities (TLCs). Such communities share and critically interrogate their practices in a collaborative, inclusive and growth promoting fashion and ultimately pursue the common goal of improving their effectiveness for the benefit of their students. There are several additional reasons why TLCs are particularly appropriate:

- TLCs are a non-threatening venue allowing teachers to notice weaknesses in their content and pedagogic knowledge and get help with these deficiencies.
- TLCs are embedded in the day-to-day realities of teachers' classrooms and schools, and thus provide a time and place where teachers can hear real-life stories from colleagues that show the benefits of adopting these techniques in situations similar to their own. Without that kind of local reassurance, there is little chance teachers will risk upsetting the prevailing classroom contract. Even though it is limiting, the old contract at least allowed teachers to maintain some form of order and matched the expectations of most principals and colleagues.
- As teachers adjust their practice, they are risking both disorder and less-than-accomplished performance on the part of their students and themselves. Being a member of a community of teacher-learners engaged together in a change process provides the support teachers need to take such risks. In short, TLCs provide a forum for supporting teachers in converting the curricular reform into 'lived' practices within their classrooms.
- Collaborative enquiry and learning has great transformative potential as it involves larger sections of the teaching force and enhances their capacity to deal with change.
- School-embedded TLCs are sustained over time, allowing change to occur developmentally. Knowledge created will also be disseminated in real time.
- The collaborative enquiry is an inclusive activity and thus contributes to the generation and maintenance of a learning organisation. The involvement of the entire institution in a curricular reform is particularly important in contexts where a mismatch exists between the operational logic of the administrative and the academic system, usually at the expense of the latter.
- Collaborative enquiry creates professional knowledge that is potentially relevant to larger populations of teachers and can hence be fruitfully transferred to other schools.

While collaboration in and through TLCs is generally supportive of teacher growth and development, particular group dynamics can also inhibit development. Teachers might for example be resistant to sharing their knowledge with peers or collude in withholding information. This, in turn, could be caused by particular interpersonal or intergroup dynamics as well as by the very institutional conditions under which these teachers work. It is therefore of utmost importance for the facilitators to link collaboration explicitly with norms, equal opportunities and transparent rules - some predefined, some negotiated by the group - for participation. They should encourage sharing, mutual trust, respect, help, open-mindedness and questioning of taken-for-granted practices and beliefs. Above all, the teacher developers should create a sense of community and emphasize a common sense of purpose that helps to sustain commitment and collective responsibility among members. Arrangements for cross-grouping of teachers from different grades, different disciplines and different schools can be particularly valuable as they facilitate the emergence of discourse communities on the basis of shared professional knowledge and interests rather than interpersonal alliances.

The next chapter will discuss some of the implications of managing major change initiatives and suggest ways of implementing the new curriculum.

7. Change Management

Insight into problems faced by an education system and awareness of potential solutions do not necessarily lead to the ability to act in an effective manner in order to guide stakeholders in instituting a change. The rapid and successful implementation of reforms in a school system is directly dependent on the quality of the knowledge, skills and thinking that a system and those that introduce its planned reforms bring to the reform process. Moreover, innovations and reforms call for new and often substantially improved, knowledge, skills and thinking in several domains. This includes knowledge about obstacles to change at both the instrumental and affective levels and about the change process itself.

Kotter (2012) details eight steps that characterise effective change: establishing a legitimate sense of urgency; creating a guiding coalition with enough power and knowledge to lead the change; developing strategy and vision; communicating the change vision; empowering broad-based action; generating short-term wins and celebrating them; consolidating gains and producing more change; and anchoring new approaches in the work culture. Kotter warns that it is particularly in the later stages of a change process when progress is being made toward achieving goals that change is likely to fail because people are then often tired and feel enough has been accomplished. If planned changes are not sufficiently integrated with organisational routines, they tend to dissipate. Applying Kotter's eight steps is far from being a simple mechanistic process. It requires a solid knowledge about communications, planning, stakeholder inclusion, knowledge management and the development of systems, as well as commitment to the planned change. In addition, Kotter (2002) also stresses the need for planned changes to appeal as much to the heart as the mind. In his most recent work, Kotter (2014) argues that in times of accelerated change, organisations need two systems that operate in concert: (1) traditional hierarchies, and (2) flexible networks staffed with people from throughout an organisation who are empowered to propose and lead change.

In reforming education systems, Fullan (2001) proposes: maintaining a focus on moral purpose; understanding the change process; increasing coherence among various aspects of a planned change; relationship-building; knowledge creation and sharing; and building commitment among an organisation's internal and external members (stakeholders). Fullan focuses on consciously being aware of, shaping and using the ideational realm of aspirations, commitment and values, as well as on the mechanics of how people work together, create and manage knowledge. His work suggests that particular care has to be given to ensure that various documents, be those vision statements, plans or policies, are aligned with one another so each supports the other, and core messages and directions are clear to those reading and implementing the documents.

However, despite what is known about educational change, it is noteworthy that education systems and their institutional arrangements are stubbornly resistant to change. Argyris (2010) goes even further arguing that organisations and their leaders tend to be 'trapped in the status quo' and in their own behaviours. These behaviours are often characterised by a tendency to blame others, and self-deception and rationalisations (Arbinger Institute, 2010). Similarly, Kegan and Lahey (2009) identify a common malaise of 'immunity to change' at both the individual and institutional levels. They posit that if a leader has not gone through a significant personal change process, the change that he or she leads tends to be shallow.

Two central messages about overcoming resistance to change rise out of the work of leading thinkers in change management. The first is that those leading change require high levels of meta-cognitive, meta-affective and meta-social awareness. The second is that people arrive at work with their personal understandings and feelings, and that these need to be explored in relationship to work in order to understand their impact on the work process. In other words, change in the workplace almost always requires more than mechanical or technical solutions. Whatever changes are sought, usually these also need to lead to a change in beliefs, feelings, knowledge and behaviours, if a change is to be sustainable.

To move beyond purely mechanistic solutions, Kegan and Lahey (2009) argue that this requires the identification of those assumptions, which are driving decision-making. Assumptions are something we take as being true without thorough investigation. For example, if a stated organisational commitment is to distribute leadership in order to ultimately improve student learning, a leader may still not delegate sufficiently because he or she does not wish to lose control. He or she may believe that holding onto control is a way of maintaining standards. Until that underlying assumption is challenged through analysis, and the development of a belief in the capacity of others to lead, substantial change will not take place. Kegan and Lahey (*ibid.*) propose that individuals need to be supported in exploring their own individual immunity to planned changes, and that the institution needs to explore its collective immunity to the desired or planned change. Without challenging underlying assumptions at both the personal and institutional level, it will be difficult for an organisation to institute change.

Three questions are relevant here:

- Having identified a series of problems in the system and suggested solutions to them, how can these solutions be implemented?
- What are the deep order obstacles to these suggested solutions and how can these be overcome?
- What are the potential intended and unintended consequences of these proposed implementations?

The following activities in the European School system need to be undertaken:

- Setting up the new curriculum and examinations units;
- Writing the new curricula;
- Consulting with relevant stakeholders about the new curricula;
- Revising the new curricula;
- Setting in place in the schools new arrangements for teaching the new curricula, i.e. new arrangements of resources, including teacher resources.
- Instituting and institutionalising new in-service arrangements for teachers in the schools to allow them to develop pedagogic approaches for these new curricula, and for their long-term professional development.
- Writing the new rules for the Baccalaureate.
- Over a period of time introducing the new curricula and the new Baccalaureate arrangements into the system.

- Liaising with the European University Sector to ensure the credibility of the new European Schools System Baccalaureate.
- Monitoring over time the introduction and institutionalisation of these new arrangements.

8. References

(References to European School system texts are in the body of the work.)

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Annex

STRUCTURE FOR ALL SYLLABUSES IN THE SYSTEM OF THE EUROPEAN SCHOOLS

JOINT BOARD OF INSPECTORS
Meeting on 11 February 2015 – Brussels

JOINT TEACHING COMMITTEE
Meeting on 12 and 13 February 2015 – Brussels
2011-09-D-47-en-4 2/4

GENERAL STRUCTURE FOR ALL SYLLABUSES IN THE SYSTEM OF THE EUROPEAN SCHOOLS

Competences are the basis for the European Schools' syllabuses. Competences include knowledge, skills and attitudes that are appropriate to different contexts. They are fundamental for developing problem-solving strategies and critical thinking.

Subject-related competences as well as personal and social competences are defined in each syllabus.

The structure of the European School syllabuses is intentionally brief and precise.

1. General Objectives of the European Schools

The European Schools have the two objectives of providing formal education and of encouraging students' personal development in a wider social and cultural context. Formal education involves the acquisition of competences (knowledge, skills and attitudes) across a range of domains. Personal development takes place in a variety of spiritual, moral, social and cultural contexts. It involves an awareness of appropriate behaviour, an understanding of the environment in which people live, and a development of their individual identity.

These two objectives are nurtured in the context of an enhanced awareness of the richness of European culture. Awareness and experience of a shared European life should lead students towards a greater respect for the traditions of each individual country and region in Europe, while developing and preserving their own national identities.

The students of the European Schools are future citizens of Europe and the world. As such, they need a range of competences if they are to meet the challenges of a rapidly-changing world. In 2006 the European Council and European Parliament adopted a European Framework for Key Competences for Lifelong Learning. It identifies eight key competences which all individuals need for personal fulfilment and development, for active citizenship, for social inclusion and for employment.

1. Communication in the Mother Tongue
2. Communication in Foreign Languages

3. Mathematical Competence and basic competences in Science and Technology
4. Digital Competences
5. Learning to Learn
6. Social and Civic Competences
7. Sense of Initiative and Entrepreneurship
8. Cultural Awareness and Expression.

The European Schools' syllabuses seek to develop all of these key competences in the students.

The text above is identical for all syllabuses.

References to documents of the European Council or of other European institutions concerning aims, objectives, strategies and competences relating to the subject/subjects could be added.

2. Didactic Principles

The learning and teaching of the subjects is based on the following didactic principles:

- Integrated teaching and learning: Links and correlations among the different areas of the European School curriculum make learning a more comprehensive and meaningful experience.
- Active learning: Students gradually become responsible for their own learning process

These principles are applied through a variety of teaching and learning approaches and strategies, the use of differentiated teaching methods, and the use of a wide range of learning resources including digital tools and resources.

Didactic principles are provided as a guide for the learning and teaching of the different subjects.

3. Learning Objectives

This section sets out the main learning objectives and expected outcomes to be attained at the end of:

- Nursery cycle
- Each year of the primary cycle for L1 and Mathematics
- Primary cycle for other subjects
- S3
- S5
- S7

Progression should be outlined from one level to the next.

If desirable, key learning objectives and competences to be attained in each year can be recommended / highlighted in the continuum for any subject.

Greater alignment needs to be provided in the transitional years P5 - S1.

4. Contents

The relevant contents in each subject necessary to meet the learning objectives are outlined. Contents are sequenced per each year/cycle.

5. Assessment

The bases for assessment are the learning objectives for each year/cycle. Specific assessment criteria in relation to the students' attainment are set for each subject. Assessment criteria must meet the principles of validity, reliability and transparency according to the Assessment Policy in the European Schools (Ref: 2011-01-D-61-en-3 Assessment Policy in the European Schools).

5.1. Attainment descriptors

Each syllabus should contain attainment descriptors for each cycle. The structure of the attainment descriptors for each cycle for all subjects will be based on the European Schools general marking scales. 2011-09-D-47-en-4 4/4

6. Annexes

Annexes with comments, clarifications, further considerations and any other supporting documents may be added to the European Schools syllabuses when considered necessary or convenient. All primary syllabuses include general assessment criteria.

6.1. Sample Baccalaureate examination paper

Syllabuses for years S6–S7 secondary education will contain a sample Baccalaureate examination paper.

PROPOSAL

The Joint Board of Inspectors is requested to approve the present document and to approve connected actions:

- Implementation of the document at the latest for the Baccalaureate session 2018. It can be implemented earlier if the inspectors responsible for the different L1 consider it convenient;
- Application of the document in all syllabuses that are under revision at this moment in both primary and secondary;
- Adaptation of current syllabuses according to the document as soon as possible and information to directors/deputy directors/teachers about changes.

The Joint Teaching Committee is requested to take note of the present document for its information.

