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STUDY

Policy Department B Structural and Cohesion Policies

ANALYSIS OF THE ACADEMIC AND PROFESSIONAL CAREERS OF THE EUROPEAN SCHOOLS' GRADUATES

CULTURE AND EDUCATION

October 2008

EN



ЕВРОПЕЙСКИ ПАРЛАМЕНТ PARLAMENTO EUROPEO EVROPSKÝ PARLAMENT EUROPA-PARLAMENTET
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Directorate General for Internal Policies of the Union

Policy Department B: Structural and Cohesion Policies

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Directorate General for Internal Policies of the Union

Policy Department B: Structural and Cohesion Policies

CULTURE AND EDUCATION

ANALYSIS

OF THE ACADEMIC AND PROFESSIONAL CAREERS OF THE GRADUATES OF THE EUROPEAN SCHOOLS

STUDY

Content:

This report contains quantitative and qualitative data on the academic and professional careers of the European Schools' graduates and on the European Schools' curriculum. It is based primarily on the answers to an electronic survey from roughly 3,000 graduates.

The study examines, among other things, which subjects former European Schools pupils tend to study at university and where they go, and in which sectors they later work. The results of the survey are analyzed taking into account the particularities with the European Schools' curriculum. Information is also provided on the satisfaction of former pupils with the system.

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EXECUTIVE SUMMARY

The study concerning the academic and professional careers of graduates from European Schools, realized in the period February-September 2008, was primarily based on the answers to an electronic survey provided by about 3,000 graduates (2,987 to be exact). Note that this number represents about 8.5% of the (best estimate we could make of the) number of graduates having obtained the European Baccalaureate since the setting-up of the European Schools' system some fifty years ago. This percentage may seem low, but taking into account that the European Schools did not systematically collect and update the whereabouts of their graduates, and only keep on file addresses of the parents (but that are not updated either once their children have left the European Schools), this percentage might actually be considered as quite reasonable. Among the respondents, 53% are older than 26, and hence can be considered as having finished their academic education and started a professional career; of these, about 3 out of 10 are older than 40 and about 1 out of 10 older than 50, which leads to the conclusion that the answers include a significant number of graduates whose professional career can be considered as being well established, although there was, without doubt, a bias in the respondents towards the youngest cohorts. The representativeness of the answers is also confirmed by the mix of respondents according to the size of the school: 71% of the respondents graduated from a «big» school in Brussels or Luxembourg and 29% from one of the other «smaller» schools, to be compared to the current distribution of 60% and 40% respectively, but it should be kept in mind that the «smaller» schools are also the younger ones, so that their share in the number of graduates has to be lower than their share in the current school population. And also both genders are nearly equally represented: 55% of the answers came from female graduates and 45% from male ones, numbers to be compared to the current distribution of 51% girls and 49% boys (so there is a light but acceptable bias towards female respondents). Leaving out respondents with a double nationality, 49% of the respondents are nationals of the original EU6 Member States, 14% of the EU10\EU6, and 26% of the later members. As far as the mother tongue is concerned, 65% of the respondents have one of the three so-called working or vehicular languages of the European Schools (English, French and German), while the rest use one of the other official languages or even a non EU27 language as mother tongue (and 17% declare to have more than one mother tongue). And finally, it is worth mentioning that 54% of the respondents have spent their school years entirely in a European School, and that even 81% followed the entire secondary level (7 years) there, so that it is reasonable to state that they knew the system well enough to participate in the survey.

Before entering into details concerning the analysis of the answers received, the consultants want to report the results of their analyses of the most important syllabuses of the European Schools' system, in order to bring to the fore the strengths and weaknesses of the education system as can be judged from these official guidelines. It should not come as a surprise that the European Schools attach great importance to the teaching of languages, either as a separate subject, or in the context of content and language integrated learning (CLIL), *e.g.* for history and geography. As was shown by the analysis of the answers received (*see infra*), this education seems to prepare pupils very well to an often international (or should we say intercultural) academic and/or professional career, even if the contents of the syllabuses of most language courses do not refer to what has recently become the standard in this respect, *i.e.* the Common European Framework of Reference for Languages (CEFRL).

Besides language teaching, the European Schools are also above average (as compared to the national educational systems in the EU, analysed by Eurydice) for the teaching of sciences (biology, chemistry and physics). Undoubtedly as a consequence of this, we note that the number of graduates who chose tertiary education in these fields is above the European average, especially so for girls.

The consultants have also analysed the measures taken in favour of pupils who have learning difficulties. The importance of these measures should be seen in the light of the fact that the European Schools offer only one single type of education (even if, within this type, pupils can choose between a wide variety of options), preparing to an academic career, but do not offer vocational or artistic education. In other words, pupils who have difficulties with the program offered cannot simply change, within the system, to a better suited type of education; hence the need of trying to help them in overcoming their learning difficulties as much as possible, especially when these are based on linguistic problems (hence also the importance of the SWALS measures = measures in favour of students without a language section). It should be noted that support measures are not limited to these cases, but also include more general learning support (LS) measures for various learning difficulties, and also measures to integrate pupils with special educational needs (SEN). In spite of these measures, the level of «doubling» classes is still a bit higher than the European average, and concerns about one out of every four boys and one out of every seven girls. It is relevant to note, in this respect, that according to the respondents, the reason for «doubling» is due to the linguistic education to roughly the same degree (as a separate subject or as CLIL) as to the scientific education, since in both cases, it concerns about one out of four pupils who had to «double» (i.e. repeat) classes.

The consultants have also tried to formulate recommendations in a separate appendix, not so much on how to improve the current system, which, as is also shown by the answers (*see infra*), can be considered as quite successful, but rather on how to have some of its strengths also taken over by national education systems in the EU. But before entering into details, it is useful to analyse the answers and see to what extent they corroborate the findings of the analysis of the European Schools' program.

In a general way, the European Schools prepare their graduates very well to an academic career, since 94% of the respondents did start such a career, and of these, 8 out of 9 eventually obtain at least a bachelorship or its equivalent. Noteworthy is also the fact that a significant number of graduates (38%) study at more than one college or university, and that only in a minority of cases (about 1 out of 3), this is due to the fact that they fail to obtain a diploma at the first college or university they attend. Moreover, almost in 30% of the cases, the first college or university is situated in a country that is neither their country of origin nor the country where they went to a European School (in nearly the same number of cases, *i.e.* 29%, this implies that the main teaching language used is not their mother tongue – in other words, the geographical mobility is confirmed by the linguistic flexibility). This sufficiently proves the large mobility of the graduates at the academic level, which is also confirmed at the level of their professional career (*see infra*). Note also that this mobility is not inspired by the fact that the respondents thought the teaching level of their mother tongue was too low to start an academic career in it: indeed, depending upon the language, only between 1% and 3% found the level to be not high enough. This appreciation of the way in which the European Schools prepare their graduates to tertiary education was corroborated by the assessment that, depending on the mother tongue, between 80% and 85% felt evenly well or even better prepared than their fellow students at college or university; there is, by the way, no real difference in appreciation between graduates from «big» or from «small» schools. On the other hand, 86% of the graduates need up to 4 years to obtain a bachelorship, and 84% up to 6 years for a mastership, which indicates some «doubling» at the tertiary level.

The percentage of graduates choosing science as their tertiary field (20%) is significantly higher than the European average (11%), and even more so for girls than for boys. The fact that the European Schools' system also attaches a great importance to the education of sciences, apart from the «obvious» importance to language education, has undoubtedly an influence on these choices; the statistical analysis confirms that there is definitely a relationship between the choice of scientific subjects, as optional courses, at secondary level, and the choice of sciences at tertiary level; given the importance of science in our society, this aspect of the European Schools' system can be qualified as beneficial.

The analysis of the socio-economic sectors in which graduates start their professional career shows that the European Schools' system, completed with the tertiary education, opens the door to a wide variety of jobs. Noteworthy is that 65% of the male and 55% of the female graduates characterize their working environment at the start of their career as being international, and these figures become even a bit higher still at later stages of the career. Perhaps noteworthy is also the fact that only 7% start a career at one of the European Institutions, despite the fact that 68% of the graduates' families belong to the so-called category I¹. When looking into more detail as far as the use of languages at the start of the professional career is concerned, it comes as no surprise that 51% of the graduates with English as their mother tongue are also using primarily English as communication language in their professional environment; this is only the case for 38% of the graduates for the other languages taken together (*i.e.* 38% of the pupils having another language than English as their mother tongue use most frequently their mother tongue in their professional environment), but this average masks significant differences for which the consultants have no explanation: for Greek, this is only 24%, whereas for Portuguese it is nearly the double, 47%, while for German, one of the three so-called vehicular languages at the European Schools, it is 32%, which is lower than *e.g.* Dutch with 36%. These numbers are, by the way, consistent with the choice of the language at tertiary level: again, it does not come as a surprise to see that 86% of the students with English as their mother tongue study at college or university in this language, but only 62% of the German speaking graduates follow tertiary education in German, which is lower than *e.g.* Dutch with 71%.

The social background of the families is quite unique, since 82% of the respondents belong to a family where at least one of the parents holds a bachelorship or higher; this is about four to five times the European average. Nevertheless, only 47% of the respondents were of the opinion that their social background has had a «determining impact» on their academic career, but when also taking into account those who found that it has had «some impact», the proportion rises to 82%. And although comparisons between the professional level of the parents are hard to make, it is reasonable to state that in about 55% of the cases, one of the parents occupies a post of or comparable to level A^(*) or B^(*) at the European Institutions.

The reasons (given by the respondents) why their parents had sent them to a European School have also been analysed. Since 68% of the pupils are from a category I family, this was obviously the most frequently given reason, followed by the multicultural character of the European Schools, the fact that they offer education in mother tongue, the good overall quality of the education, and in fifth position, the European Baccalaureate (which was mentioned twice less often as compared to the most important reason, *i.e.* the category I; other reasons were given even less frequently).

The analysis of the «drop out» reasons shows that hardly ever is a deficient level of the education provided by the European Schools' system mentioned; on the contrary, in most cases the level of the education (and especially the points where the system wants its pupils to be

¹ Pupils of which at least one of the parents works for a European Institution.

strong, *i.e.* languages and sciences) is considered too high for some pupils, and since the weaker ones – even when they can get learning support – have no real alternative but to «double» classes, the end result may be that they have to leave the system and continue in a more suited educational system. This being said, it is interesting to note that the most frequently mentioned reason is the fact that parents (in practice, nearly exclusively British nationals) send their children to a boarding school in their home country, but it would also seem that this has little or nothing to do with the quality level of the European Schools' system as such.

All in all, the quality of the education received at a European School is highly appreciated by the graduates, and only 3% of the responding graduates declare they would not send their own children to a European School or not recommend it to others. The percentage of graduates who have kept a positive opinion about their stay at a European School (and who would without doubt send their own children there if they had the opportunity, or recommend it for children of their friends and relatives), varies between 68 and 74% depending on the size of the school (with the «big» schools having the highest percentage), and between 71% and 74% depending on the gender of the respondents (with boys having the highest percentage), with 72% as the average.

Finally, a last topic that was analysed concerned the networking between the graduates; as we have already said, the European Schools themselves have made little efforts in the past to keep track of their graduates, so it was interesting to see to what extent these keep contact with one another on their own initiative. Professional networking does not seem to be very important: only 11% of the respondents confirm they have regular contacts with fellow pupils for professional reasons, and this figure has to be interpreted taking into account that 7% of the respondents are working for a European institution, where chances of meeting old fellow pupils are anyhow larger than in other working environments. Note that this percentage is not significantly influenced by the age of the respondent, which is, on the other hand, a determining factor when looking at the networking for social reasons: here, the average percentage is anyhow much higher, with 64% of the respondents stating that they have social contacts with fellow students on a regular basis, and this is even 79% just after graduating (till the age of 20) and still 68% till the age of 25, to drop gradually at later age to about 50%. Anyhow, it would seem from this that the basis for professional networks is just laid to a limited degree at the level of secondary education, and probably more at the level of tertiary education and of the professional career itself.

The consultants consider that the above elements provide answers to the questions that were asked, or in other words, the subjects that had to be studied according to the specifications in the call for tender for this study. It is, of course, not uncommon that answers to specific questions raise, in their turn, new questions that can either be answered on the basis of the information already collected, or that would need additional study, or that can give rise to some form of intellectual reasonable conjecture.

Given the positive nature of the conclusion regarding the quality of the European Schools' programs and the opportunities it is proven to offer to its graduates in terms of academic and professional careers, two important questions raise: first, which exactly are the aspects or concepts that are specific to the European Schools' system and that can be qualified as strengths thereof, and secondly, is it – from a pedagogical or organisational viewpoint² – recommendable to «export» them into the national education systems. The consultants are

² Note that some if not all of the specific elements that contribute to the strength of the European Schools' system may have a substantial cost because of the extra resources they require. Since financial aspects have not been analysed in this survey, the consultants did not take financial elements into consideration when formulating their reflections.

aware of the discussions that are taking place in this context, and think that the following elements could be taken into account in the decision taking processes in which the stakeholders are presently engaged:

- 1) Obviously the European Baccalaureate opens the doors for the graduates to colleges and universities in a EU country of their choice, and as is proven by the figures, 94% of the graduates actually use their Baccalaureate to start tertiary education, whereby the majority also uses the «international» dimension of the Baccalaureate, since 62% of the graduates attend college or university in a country that is not their country of origin.

The first percentage (94%) must not be attributed solely to the merits of the European Baccalaureate: as appeared from the survey, 82% of the graduates have a family background where at least one of the two parents holds a tertiary diploma, and this is, probably not by coincidence, also the percentage of graduates who were of the opinion that their social background had «some impact» to a «determining impact» on their academic career.

The second percentage (62%) is of course dependent on the existence of the European Baccalaureate, but this document as such only facilitates the access to college or university in any country of the EU, but as such, does not guarantee that the holders will be successful there, since this is dependent much more on the thorough quality of the provided education and on the knowledge of the language in which the tertiary education will be provided there, than on the European Baccalaureate as such. As a consequence, «exporting» the concept of the European Baccalaureate into the national education systems in the EU, without at the same time making sure that the level of the foreign language teaching is sufficiently high, might not lead to the desired effects.

- 2) As appears from 1), the importance of the high quality of the foreign language education cannot be stressed enough. It has already been repeated in many reports that one of the reasons why the European Schools score so high in this respect, is – besides the high number of teaching periods in the European Schools' program devoted to foreign languages and the fact that the teaching of a second language already starts at an early age – that the system resorts to native speaking teachers, not just for the language courses *stricto sensu*, but also when foreign languages are used in the context of content and language integrated learning (e.g. for history or geography). Here again, the question should be asked if «exporting» the concepts of native speaking teachers and/or of content and language integrated learning (CLIL) as such into the national education systems in the EU would lead to the same results. As a matter of fact, it should not be forgotten that the fact that the pupils of a European School are so to say obliged to actually use the foreign language(s) they learn in their everyday life and communication with fellow pupils, contributes in a significant way to the knowledge and use thereof («immediate pertinence» according to Beatens Beardsmore). This multilingual and multicultural environment, up to the end of secondary, is still one of the specificities of the European Schools, which might be difficult to reproduce at the level of the national education systems, which – confronted with the reality that more and more children from other cultures than the one of the country enrol in their schools – seem to focus mainly on the quick learning of the teaching language by the children, thus not valuing the opportunities this linguistic diversity might offer³. Obviously the recommendation of changes into the national education systems aiming at an awakening to foreign languages at an early age, would need much more further analysis than can be expected from the survey made here by the consultants.

³ According to a recent communication from the European Commission, «*There are also untapped linguistic resources in our society: different mother tongues and other languages spoken at home and in local and neighbouring environments should be valued more*» (European Commission, 2008, p. 6).

- 3) One of the objectives of the European Schools' system is not just to prepare the pupils to a successful academic (and professional) career, but also to make good European citizens of them, showing *i.a.* openness and respect towards other cultures. The concept of «European Hours» (at primary level) has been implemented to foster this. Here too, the question can be asked if this concept could be «exported» to the national education systems. Of course, for such a type of courses to be really successful, the school must have a multicultural character that children can experience every day, in order to render the concepts of openness and respect practical and not theoretical. This being said, it seems nevertheless useful to provide teachers in national education systems which are less multicultural than the European Schools' system, with didactical means helping them to organise similar kinds of activities as foreseen during the «European Hours».
- 4) Finally, the study has shown that there is statistical evidence of a relationship between the importance the European Schools' system attaches to the teaching of sciences (a solid basis for all, possibly followed later by a specialisation for the most interested students), and the choice made by its graduates to follow tertiary education in these fields. Insofar as this should be seen as beneficial for the future of our society, this aspect could enlighten the reflexion of the stakeholders of national education systems about the composition of their curriculum.

Acronyms

ES	European School(s)
ICT	Information and Communication Technologies
L0	Mother tongue of a pupil at a ES
L1	Language of the section to which a pupil belongs; most often, L0 = L1
L2	First foreign language, to be chosen amongst English, French or German
L3	Second foreign language
L4	Third foreign language
CEFRL	Common European Framework of Reference for Languages
CLIL	Content and Language Integrated Learning
LS	Learning Support
SEN	Special Educational Needs
SWALS	Students without a language section [at the European School where they are enrolled]

GLOSSARY

Category I	Pupils of which at least one of the parents works at a European Institution.
Category II	Pupils of which at least one of the parents works for a company or institution that has signed an agreement with the European Schools' system; this company or institution pays the school fees.
Category III	Pupils not belonging to category I nor II, and whose parents pay them-selves for the school fees.
Eurydice	The information network on education in Europe, Eurydice has since 1980 been one of the strategic mechanisms established by the European Commission and Member States to boost cooperation, by improving understanding of systems and policies. Eurydice was also an integral part of Socrates, the Community action program in education from 1995 to 2006. Since 2007, Eurydice has been included in the EU Action Program in the field of Lifelong Learning in which, as part of the transversal program, it helps to support the development of policies in this area, as well as cooperation at European level. Eurydice operates as an institutional network for gathering, monitoring, processing and circulating reliable and readily comparable information on education systems and policies throughout Europe. It covers the education systems of the Member States of the European Union, the three countries of the European Free Trade Association which are members of the European Economic Area, and the EU candidate countries involved in the EU Action Program in the field of Lifelong Learning .
Interparents	The central organisation of the Parents' Associations at the European Schools.

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1. INTRODUCTION

The European Parliament wanted to make an analysis of the academic and professional careers of graduates of the European Schools. The terms of the call for tender were published in document IP/B/CULT/IC/2007-073, and the study was awarded to van Dijk Management Consultants from Brussels, to be assisted, for the pedagogical aspects of the study, by the *Unité d'analyse des systèmes et des pratiques d'enseignement* (Faculty of Education) from the University of Liège.

This document is the final report of the study. It is composed of the following chapters:

- Chapter 2, which enters into detail concerning the methodological aspects of the study
- Chapter 3, which gives some essential facts and figures concerning the European Schools' system
- Chapter 4, which gives an overview of the different aspects that needed to be looked into (academic career, professional career, social background, «drop out» issue)
- Chapter 5, with some additional information
- Chapter 6, with the conclusions
- Chapter 7, with some recommendations.

Note that the study was realised in the period February-July 2008 for the data collection, and July-September 2008 for the analysis of the data and the writing of this report.

2. METHODOLOGICAL ASPECTS

2.1. Introduction

This chapter gives an overview of the methodology used to collect and evaluate the data that were needed to cover the different aspects that needed to be looked into, according to the terms of the call for tender. Although the title of the study focuses on the academic and professional careers of the European Schools' graduates, some other interesting topics were part of the analysis too, namely:

- An evaluation of the curriculum of the European Schools
- An analysis of the social background of the graduates
- An analysis of the «drop out»-issue, *i.e.* the phenomenon of pupils leaving the European Schools' system (for reasons other than the fact that their family move elsewhere, making the attendance at the European School practically impossible).

Consequently, different sources had to be consulted to collect the necessary primary data. The nature of these sources and the way in which the data were collected will be treated in the following paragraphs. Since the expression «academic and professional careers» may cover, in a strict way, these two aspects as such, and in a larger way, all the topics that needed to be addressed in this study (including the evaluation of the curriculum, the analysis of the social background, etc.), we will add the words «*sensu stricto*» when we only aim at the academic and professional career as such, and «*sensu lato*» when all the topics are concerned.

2.2. Data sources and data collecting concerning the academic and professional careers *sensu stricto*

Obviously, the only source to obtain detailed information concerning the graduates' academic and professional careers *sensu stricto* are these graduates themselves, since the schools have only limited information on what happens to their graduates once these have left the European School (usually schools would know if a graduate started an academic career, and which field he or she chooses, but the information stops there). Nevertheless, in order to contact the graduates, schools were expected to play an important role, in the sense that they should be able to give the (postal or e-mail) addresses where their graduates might be contacted.

From the information the consultants had gathered when writing their offer (obviously at a moment when they could not yet officially contact the schools), it was fairly apparent that the schools, in a general way, did not have well structured databases with up-to-date addresses of their graduates. This was confirmed once the schools could be contacted after the contract was officially awarded to the consultants: schools had, of course, addresses from the parents of their graduates, but prior to 1994-95, these were only kept in paper files, and since then, an electronic database system is in use that turned out to be quite cumbersome when it came to extracting lists of addresses, that were anyhow not kept up-to-date once the children of a family had all left the school. Some schools had collected e-mail addresses of their graduates, but these too were not kept up-to-date, and turned out to be often short living. But on the other hand, in some cases, a file of rather recent e-mail addresses was available, *e.g.* set up in the context of the celebration of the Nth anniversary of a school, where the participants were asked to leave their e-mail addresses.

Besides the fact that contact data were sparse and often not up-to-date, the consultants were confronted with a second problem that caused some unforeseen delay: indeed, when first contacting the schools with an official letter, with the approval of the European Parliament and of the Office of the Secretary General of the European Schools, several schools raised the question if the regulation on the protection of the privacy of their graduates (and their families) would allow them to hand over the contact data they dispose of. After having this matter looked into by a specialized law firm that was contacted by the Office of the Secretary General and with additional comments and recommendations from the Data Protection Officer from the European Parliament, it was found that this handover would not constitute an infringement on this regulation, provided the consultants gave some guarantees in writing concerning the way they would collect and treat the data.

In the meantime, and according to what was proposed in their offer, the consultants had started to set up a questionnaire (in English and French) that would be used to collect the information on the academic and professional careers *sensu lato*. A draft version of this questionnaire was tested by, on the one hand side, several graduates who are now working for a European Institution, and on the other hand side, a number of pupils now in their final year of secondary at a number of European Schools. The comments and suggestions received were taken into account, and lead to a finalised version of the questionnaire that was ready for use by mid-April 2008.

This questionnaire took the form of an electronic document (as said, in English and in French), accessible through the Internet on the website of the consultants, and containing nearly 60 questions (*see the appendix*); in order to make the answering to the questions as user-friendly as possible, the questions were nearly always of the type «multiple choice», with a set of predefined options, including, when relevant, the option «other», which could then be detailed in free wordings by the respondents. Predefining the options turned out to be quite a challenge in some cases, since in educational and pedagogical matters, the Member States have a lot of freedom to define the curricula, the way of evaluating students, etc. And also finding an appropriate set of professional choices (not too detailed and not too crude) was not an easy thing.

By mid-April also, a satisfactory agreement with the necessary guarantees concerning the privacy protection issue had been worked out (this implied *i.a.* that respondents were not obliged to give their name), so schools started to provide the consultants with the (little) contact data they had⁴. But since it had become clear that many of these addresses would probably be outdated, it was decided, with the agreement of the staff of the European Parliament, to use additional contact sources that were not foreseen in the original methodology as described in the consultants' offer:

- since a large part of the graduates are category I pupils, *i.e.* children with at least one parent working at a European Institution, it was decided to contact the personnel of these Institutions by means of the *Revue du personnel*, asking them to make the survey known to their children who graduated from a European School, or to friends and relatives who have children who did too
- as already said, we could use e-mail addresses that staff of some European Schools had collected on special occasions (*e.g.* the Nth anniversary of their school)

⁴ In fact, all schools sent contact data to the consultants, with the exception of the School in Culham, despite several attempts from the side of the consultants. Nevertheless, we did receive answers from graduates from this school (*see paragraph 4.2.6.*).

- Internet sites like FaceBook try to bring together people sharing a common background or interest, and indeed, several contact groups of graduates from European Schools have been set up there. We have also used this medium to contact as many graduates as possible
- we could also use the contact data that were available in the website YourSchool that was set up by the school of Luxembourg a few years ago, and that could be considered as a kind of FaceBook *avant la lettre*
- some time ago, an unofficial (*i.e.* not subsidised) association of graduates called *Euresco*, was set up; they developed a website that – although Euresco went «out of the air» in 2002 – graduates can still use to register and/or post questions and information regarding the European Schools, much in the same way as FaceBook. Such has been the case for the announcement of the existence of this study and of the questionnaire we used to collect the data
- *last but not least*, we could count on the cooperation of Interparents, who has sent out a message to all its members announcing the fact that this study was being made, and inviting them, or more correctly, their children who graduated already, to fill in the questionnaire.

We are, of course, aware, that especially the first and last of these sources might somewhat bias the sample in terms of social background of the graduates and also in terms of their age (or, more precisely, the number of years since they graduated). This latter phenomenon (age) may also play for the FaceBook like sources, since these sites tend to be more appealing to younger people. But anyhow, given the fact that the schools do not have complete and updated information on (all) their graduates, a certain risk of bias in the sample seemed preferable to a sample that would otherwise be too small.

A letter or electronic message (in English and French) were sent to all these individual contact points, in which the purpose of the study was explained, and in which the graduates were invited to surf to the website of the consultants, where a link to the electronic survey was present (the questionnaire as such is posted on the site of the company Qualtrics specialised in software for surveys). A draft of the text of this letter or message was first submitted to the staff of the European Parliament for approval.

We refer to chapter 4 for the results of all these efforts in terms of numbers of people contacted, and number of answers received, and hence, of representativeness of the survey.

2.3. Data sources and data collecting concerning the curriculum of the European Schools

Information about the curriculum, *i.e.* the (mandatory and optional) courses taught at the European Schools, together with the objectives aimed at, the contents of the courses, the methods used, etc. could be collected easily by contacting the Office of the Secretary General of the European Schools and by analysing its existing documents.

This, however, concerns what is generally called the «explicit» curriculum; besides this one, there exists also an «implicit» curriculum, which covers other educational or pedagogical aspects that influence the development of the pupils, such as *e.g.* the aid in the case of special educational needs, the rules concerning «doubling» classes, the pluricultural and plurilingual

school environment, etc. Insofar as the characteristics of this «implicit» curriculum are fixed and available (which is not always the case), they have been included in the analysis too.

The syllabuses thus collected were analysed and compared, whenever relevant, with data available through international comparative studies, *e.g.* realised by the unit Eurydice. It must be underlined that the analysis concerns the prescribed curriculum, also called «intended curriculum»: it is well known that the actually taught curriculum can differ from the prescribed one and no information is available about the width of the possible gap in the case of the European Schools.

We refer for more «facts and figures» to chapter 3 and to the appendix for a more detailed analysis.

2.4. Data sources and data collecting concerning the social background of the graduates' families

Obviously, most of what has been said in paragraph 2.2 concerning the academic and professional careers *sensu stricto* also applies to the collection of information regarding the social background of the graduates' families, where information had to be collected by contacting the graduates themselves (contacting the parents but at the same time offering the possibility to remain anonymous would not have allowed to cross link answers from the parents to answers of their children).

As far as definitions are concerned, the following rules were applied:

- Parents were defined as being the father or stepfather and the mother or stepmother in charge of the pupil at the time of his or her graduation.
- The social background was measured using two indicators: the professional level of each of the two parents and their educational level, in terms of highest diploma obtained; questions about the salary levels were deemed inappropriate.

For this subject too, the consultants worked with multiple choice questions, which needed a classification which again turned out to be quite a challenge for the professional level of each of the parents, where a trade off had to be made between too detailed (and hence too long) and too crude (but shorter) lists, and still taking into account the fact that a large majority of the families have at least one parent working for a European Institution, using its own classification.

We refer to paragraph 4.5. for more details.

2.5. Data sources and data collecting concerning the «drop out» issue

If we were to apply the same logic as for the data collecting concerning the academic and professional careers *sensu stricto*, we should have contacted pupils who actually had dropped out of the European Schools' system, asking them for the reason(s) why they did so. But given the problems the consultants already had to contact graduates, it is easy to understand that obtaining contact data for pupils, who actually dropped out of the system, would be near to impossible. Hence, it was decided that for this subject too, the graduates would be the first source of information, of course pertaining not to their own situation, but to the situation of fellow students they had known and who dropped out of the system. This means that they might not know the real reasons for such a «drop out». In order to verify this, it was agreed that the first and provisional conclusions of this analysis would be submitted to representatives of the school heads, who would serve as a second source of information, allowing a kind of validation of the information.

We refer to paragraph 4.6 for more details.

3. EVALUATION OF THE CURRICULUM OF THE EUROPEAN SCHOOLS

3.1. Introduction

In line with the statistical analysis of the next chapter (analysis of the responses to the surveys), this chapter will focus on some essential «facts and figures» about the curriculum of the European Schools, that are especially relevant in view of the academic and professional careers *sensu stricto* of the European Schools' graduates. Six priority themes have been selected:

- The nursery school, which can play a very important role, notably for the integration of children belonging to a variety of cultural and linguistic environments.
- The time devoted in the curriculum to the various subjects which notably shows the importance recognised to each of them.
- Languages and multilingualism, a major feature of the European Schools being the opportunity of an intensive learning of modern languages.
- The «European hours», activities which are specific to the ES.
- Science learning, usually considered as essential by most specialists.
- Last but not least, the measures toward the students meeting difficulties, be it in the domain of languages (students without a language section or SWALS, or students enrolled in an European Schools after several years spent in other types of schools), students with special educational needs (SEN) or students having difficulties in one or several topics (important from the point of view of the dropped-out students).

The interested reader can find the full references of the referred papers in the detailed version of the curriculum analysis (*see appendix 3*).

3.2. Quantitative elements concerning the (compulsory and optional) courses

3.2.1. Nursery level

According to Eurydice (2005, p. 49-57), the enrolment of children in establishments under the authority of the Minister of Education is most often possible from the age of 3 (10 education systems), or even earlier (11 education systems). Attendance at a pre-primary educational institution is optional in most countries.

In the European Schools' system, the nursery school welcomes children aged from 4 to 6, which is a little later than in most European education systems, and attendance is optional. Note however that some European Schools offer the possibility of organising a *kindergarten* within their walls, but under the responsibility of the parents' associations.

3.2.2. Primary level

The number of teaching hours (playtime not included) given by the European Schools is 851; when comparing this to 31 other education systems covered by Eurydice, this is quite a higher than average number (ranking 9th on 32, in decreasing order).

The consultants have also analysed the way in which the (compulsory⁵) teaching hours are split over the different courses. The results are summarized in the following table, which gives the percentages for the European Schools, the minimum and maximum percentages as observed by Eurydice, and the ranking of the European Schools within European educational systems.

Table 1: Time devoted to the compulsory courses at primary level in the European Schools and in the educational systems of the EU

Primary level	European Schools	Minimum Eurydice	Maximum Eurydice	Median Eurydice	Ranking of European Schools ⁶
Teaching language	31 %	4 %	39 %	24 %	9/24
Mathematics	20 %	4 %	23 %	17 %	5/24
Natural sciences	5 %	3 %	12 %	6 %	15/23
Social sciences	9 %	2 %	21 %	7 %	16/22
Foreign languages	14 %	2 %	39 %	5 %	3/29
Sports	5 %	3 %	15 %	9 %	23/25
Artistic activities	11 %	3 %	22 %	13 %	18/23
Religious/moral instruction	5 %	1 %	15 %	6 %	15/26
ICT	0 %	0 %	1 %	0 %	–
Optional	0 %	0 %	1 %	0 %	–
Others	0 %	0 %	6 %	0 %	–
Total	100 %	–	–	–	–

This table indicates clearly the high relative importance the European Schools' system attaches to language education (both mother tongue through the general teaching and especially the teaching of a foreign language), for which the relative number of hours (resp. 31% and 14% of the total) is in both cases well above the median value as reported in Eurydice (resp. 24% and 5% of the total). In fact, as far as foreign language education is concerned, the European Schools have to give way to only two other countries, Malta and Luxembourg, which could, in this respect, be considered as somewhat out of the ordinary. Note that the teaching of a first foreign language (to be chosen out of one of the three so-called vehicular languages English, French or German) already starts for all children at the first year of primary, which is also the case in Luxembourg; only Malta starts at a still younger age. This so-called L2 is taught for at least 2 ½ hours per week in the first two grades of the primary school, and for 3 ¾ hours from the 3rd to the 5th grade. Moreover, this L2 is also usually used during the so-called European hours (*see also figure 1 at the next page*). Also the scores for the mathematics and for social sciences are above the Eurydice median value.

On the other side of the extremes, we find sport and artistic activities.

⁵ At the primary level, the number of optional hours is mostly very limited, if not equal to 0 all together.

⁶ Eurydice analyses in total 32 European educational systems at primary level, but in some cases no minimum number of hours is specified for some courses, as the actual way of filling them in is left to the schools themselves; this explains why the ranking of the European Schools is generally on a scale with less than 32. Let's recall that the number of educational systems taken into account for the ranking is the number of available data about the European educational systems plus one (the European Schools system).

3.2.3. Secondary level

A similar analysis was made at the secondary school level. Here, comparisons are a bit harder to make, because of the fact that most, if not all, countries impose a minimum number of courses that are mandatory, to which are supplemented a variable number of optional courses.

When only considering the (average) number of compulsory hours, it would seem that the European Schools (with 849 compulsory hours) occupy the 28th place in a ranking of 38. The Eurydice data are not complete and detailed enough to make rankings that would take account of the options, which, by the way, may add up to a different total of hours within the same educational system according to the courses taken. Note that the options, in the European Schools, represent 13% of the total number of hours of the curriculum (*see also next table*).

When analysing the split of the teaching hours over the different compulsory courses, we obtain the following results:

Table 2: Time devoted to the compulsory courses in full time compulsory general secondary level in the European Schools and in the educational systems of the EU

Secondary level	European Schools	Minimum Eurydice	Maximum Eurydice	Median Eurydice	Ranking of European Schools ⁷
Teaching language	14 %	1 %	23 %	13 %	16/35
Mathematics	12 %	5 %	17 %	12 %	13/35
Exact sciences	13 %	4 %	21 %	11 %	8/35
Human sciences	13 %	3 %	17 %	12 %	10/34
Foreign languages	17 %	0 %	34 %	14 %	7/34
Sports	8 %	2 %	13 %	8 %	13/35
Artistic activities	5 %	2 %	29 %	10 %	23/32
Religion/moral	5 %	0 %	7 %	3 %	10/31
ITC	1 %	0 %	8 %	1 %	17/35
Optional courses	13 %	0 %	22 %	0 %	5/36
Total	100 %	-	-	-	-

Based on this, it seems fair to state that the relative weak position (28th in a ranking of 38) on the level of the compulsory courses, would probably be adjusted towards a more average position, if the core curriculum options would be taken into account (where the European Schools rank 5th on a total of 36).

For most courses, the relative importance is close to the median value of the total sample, with the exception of artistic activities, where the European Schools are at about half the median level (5% as compared to 10%).

⁷ Eurydice analyses in total 36 European educational systems or tracks at secondary level, but in some cases no minimum number of hours is specified for some courses; this explains why the ranking of the European Schools is generally on a scale with less than 36.

The compulsory teaching of foreign languages, where the European Schools did much more efforts than the others at the primary level, seems to have evolved, at this secondary level, toward a more median value, but this is not quite true, taking into account the following two aspects (*see also figure 1*):

- the fact that the optional courses notably allow pupils to specialize in their second or to go on with a third foreign language, and/or to start learning a fourth one.

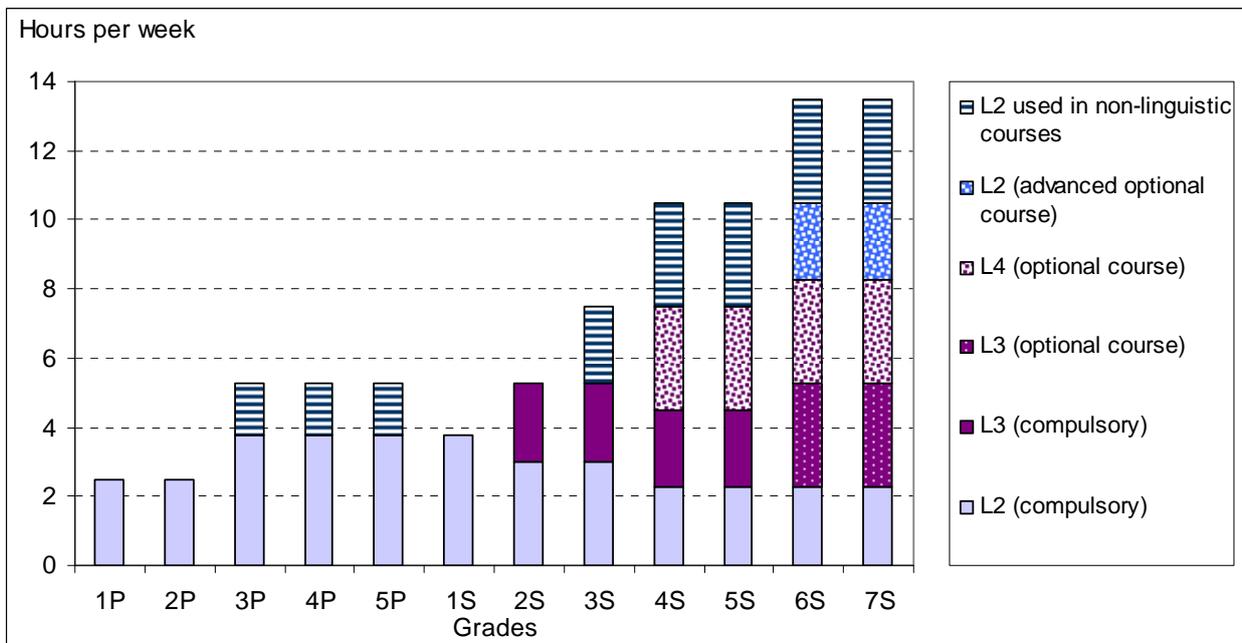
As a consequence and by way of example, the number of foreign language hours can vary, in the two final years of secondary, between a minimum of 2.25 hours per week (corresponding to the 17% in table 2), and a maximum of not less than 10.5 hours per week, or more than four times as much.

We refer to paragraph 4.3.4 to see to what extent pupils actually do opt for foreign languages, or prefer other optional courses to them.

- the fact that several subjects are usually taught in a foreign language, belonging to one of the three so-called vehicular languages of the European Schools’ system: the «European hours» (in the three last grades of primary school) as well as the social sciences (geography, history and also economics, which is optional), and in some cases still other optional courses (starting from the third year of secondary). In the statistics in table 2 above, these hours are accounted for as belonging to the social sciences, whereas in practice, they should be considered as combining social sciences and foreign language courses.

The figure below summarizes the minimum and maximum number of hours per week of foreign language education or use (in the case of social sciences).

Figure 1: Number of hours for foreign language courses (with minimum and maximum values) and of hours of courses of human sciences taught in a foreign language



3.2.4. Presence of the different languages

A recent communication from the Commission of the European Communities to the Parliament and to the Council «*reaffirms the Commission's commitment to multilingualism in the European Union*» (2005, p. 3). To what extent does the European Schools' curriculum contribute to this objective?

First of all, the European Schools' system obviously gives priority to the students' mother tongue: most pupils are enrolled in a section where their mother tongue is used, and when it is not feasible to organise such a section, they get personalised education about this idiom (in addition to the core curriculum).

The linguistic sections present in the European Schools have been checked. Every European School, even the smallest ones, provides the students with a multilingual environment: the number of sections varies from 4 to 12. As each language which is taught as a language section can be taught as a 2nd or a 3rd language, the range opened to the students' choice is very broad.

If we consider the presence of the different official languages in the schools, huge differences have to be noticed: while the three vehicular languages (English, French and German) are present in all schools, almost caught up with Italian (12 schools) and Dutch (10 schools), most other languages are only offered in 1 or 2 schools, and some 8 languages do not seem to justify a section in any school; only Spanish (6 schools), Danish and Greek (each in 4 schools) are in-between.

The mere existence of a linguistic section of course depends on the presence of minimum numbers of category I students whose idiom is the mother tongue, which in turn varies according to different parameters (school environment, number of inhabitants of the country where it is spoken ...). Besides, in the cities which count more than one European School, pupils speaking the same mother tongue can be put together in one of the schools to reach the threshold number to open a section. It is nevertheless a fact that 8 official languages out of 23 occupy only a reduced place in the European Schools.

3.3. Qualitative elements concerning the (compulsory and optional) courses

3.3.1. Introduction

In paragraph 3.2, the analysis of the curriculum was focussing on the number of hours that the courses (and especially the foreign languages) were taught. This, of course, is only one side of the coin, since one should also consider the quality level at which these courses should be taught, or in other words, the level that pupils are expected to reach and the competences they are expected to master at intermediary and final stages.

The methodological problem with this kind of evaluations is that referential frameworks are often very partial if not totally missing. Furthermore, this type of analysis, if we were to enter into detail, could lead us very far from the objective of this study, *i.e.* the analysis of the academic and professional careers of the graduates, which includes of course an evaluation of the way in which the European Schools' system is meant to prepare them to these careers (and in the first place to their academic career).

3.3.2. Nursery level

In a provisional framework plan drawn up by the Board of Inspectors (Nursery and Primary) in cooperation with the nursery teachers and approved by the Board of Governors (*Education at nursery and primary school*), educational activities are described in terms of the different learning areas: oral and written language; mathematics; discovery activities; artistic, physic and musical education.

The nursery school aims at both developing the potentialities of all children and the acquisition of basic competencies necessary to succeed in school. Besides topics similar to those which can be found in the syllabuses of most national education systems, as mathematics, reading, communication, the frame interestingly includes sides of education which are specific to the ES:

- To provide children with an opportunity to understand other nationalities and other cultures thanks to social interaction.
- To offer a quiet and welcoming environment in order to help the children who might encounter problems due to their life in a multicultural environment (linguistic difficulties, lack of some references, frequent absence of the parents for professional reasons, etc.).
- To organise projects common to several classes and to several linguistic sections.
- To pay a special attention to the children who live in a multicultural environment, and also to those who are taught in a language which is not their mother tongue.

3.3.2. Foreign languages

Language courses and practices in the domain of languages can help the European Schools to reach several of their objectives: first, «to develop high standards in the mother tongue and in foreign languages», but also «to give pupils confidence in their own cultural identity – the bedrock for their development as European citizens», «to encourage a European and global perspective overall and particularly in the study of the human sciences» and «to foster tolerance, co-operation, communication and concern for others throughout the school community and beyond» (Source: <http://www.eursec.eu/index.php?l=2>).

The first foreign language or L2

The most recent syllabuses for L2, which concern French, have been analysed in detail and briefly compared to the others (English and German).

In the program for French L2 in primary school (*Program de français langue 2 - cycle primaire*), several interesting indications can be read, which are consistent with present knowledge about the learning of foreign languages:

- The global objective, which is functional, «to receive and produce messages with functional aims in the frame of activities' projects» (p. 4).
- Some insistence on groups' heterogeneity and on the necessary differentiation of the activities to take the pupils' diversity into account:
 - The competencies to reach defined year per year, but with two «years» of additional competencies for the quicker students.
 - The recommendation of proposing to the slower children the same communication acts as to the others, but at a lower level of difficulty.

- The fact that the teachers are native speakers of the language they teach.
- The insistence on some continuity in learning and attention paid to a kind of preparation of the future learning of L3.

Reading the syllabus for the secondary cycle, several positive elements can be noticed:

- The will to take into account the courses which will be taught in French, and to prepare the learning of an additional foreign language (L3).
- The underlined necessity of taking account of the classrooms' national and cultural diversity.
- The use of play roles introducing exchanges into the classroom.
- The mention of the European portfolio, as a tool for self-assessment and for self-correction.

However some other points look more like limits:

- The quasi-total absence of reference to the learning made in the primary cycle.
- The understanding of differentiation as additional means outside of the classroom (specialised courses), more than as a side of the teacher's methodology.
- The orientation of the last two grades toward baccalaureate, more than toward the level to reach before leaving the European School.

Finally, the high level of precision of some methodological indications (for instance the number of works to study) gives a frame, which can be positive or negative, depending on the circumstances.

The competences to develop during the primary cycle – as far as a cautious analysis of the program in relation to the Common European Framework of Reference for Languages (CEFR, Council of Europe, 2000, p. 24) is concerned – roughly match the A2⁸ (Basic user level 2) and the B1⁹ (Independent user level 1) levels.

⁸ The basic user of level 2 (A2) «can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate Basic need» (Council of Europe, 2000, p. 24).

⁹ The independent user of level 1 (B1) «can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans» (Council of Europe, 2000, p. 24).

A similar analysis of the competences requested at the end of the secondary cycle shows that for the course of French L2, the European Schools seem to aim at the proficient user's level, either level C1¹⁰ or level C2¹¹, depending on the competence (http://www.coe.int/T/DG4/Portfolio/?L=E&M=/main_pages/levels.html).

Unfortunately, the other syllabuses for L2 are much older, be it English (1997), or German (1998), which notably explains that some of the most recent advances in the domain of foreign languages have not been integrated in them (for instance the Common European Framework of Reference for Languages, published in 2000). There are other differences between the syllabuses. The one for German gives detailed instructions about assessment, although the programs of English and of French L2 define more precisely methodology and contents, respectively. The differences about the competencies to foster are even more questioning: the program of German sets the methods of working and knowledge on the same level as communication, while these first two skills are integrated, but much more discretely, in the other programs.

The courses of advanced French and German (L2) aim to increase the linguistic competence of the students, to familiarise them with the civilisation of the French- or German-speaking countries more systematically, and to deepen the learning of some techniques (for instance to prepare a talk). The syllabus for English is more oriented toward the literature and the culture of the English-speaking world. Strangely enough several syllabuses are missing: French L3 and L4, and English 4, notably (see the document 2008-D-36-en-6).

Content and language integrated learning (CLIL)

Some features of the European Schools, in which students are taught foreign languages, make them rather similar to linguistic immersion, in which teaching is provided in a different language, or to content and language integrated learning or CLIL (Eurydice, 2006a).

Indeed, English, German, and French are used for communication by the students whose mother tongues are even much more numerous, in their daily life at school. In addition, from the 3rd primary grade up, students from different linguistic sections work altogether, for one and a half hour per week, in the frame of the «European hours». In the secondary school, from the 3rd secondary grade up, social sciences are taught in L2.

¹⁰ The proficient user of level 1 (C1) «*can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices*» (Council of Europe, 2000, p. 24).

¹¹ The proficient user of level 2 (C2) «*can understand with ease virtually everything heard or read. Can summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations*» (Council of Europe, 2000, p. 24).

Discussion

Several sides of the European Schools curriculum about languages are likely to help to reach the European objectives about multilingualism (at least two languages in addition to his/her mother tongue):

- The early beginning of the learning of a first foreign language which, provided that some other conditions are fulfilled, may help the children «*over time in acquiring a sound system, a grammar and possibly other components of language which have something if not everything in common with a native speaker's command*» (Johnstone, 2002, p. 19).
- The plurilingual feature of the environment which secures the «immediate pertinence» of the acquisitions and of which Beatens Beardsmore (1988), followed by Housen (2002), has shown the importance.
- Teaching by native speakers, who guarantee the quality of the language which the students are in contact with (especially accent and intonation).
- The content and language integrated learning, the efficiency of which is very largely acknowledged (see Eurydice, 2006, for information about the increasing use of this methodology in Europe and Hamers & Blanc, 2000, for a synthesis of studies about bilingual education).
- The potentially high number of language courses, as the impact of the time for learning is well known since Carroll's study (1963).

The analysis has however shed light on two limits in the system:

- Some lack of consistency between the syllabuses for primary and for secondary schools. As continuity is important (Council of Europe, 1998; Johnstone, 2002), to ensure that secondary syllabuses are based on the knowledge acquired in the primary school could increase the foreign language learning efficiency.
- The fact that a very important work of the European specialists of foreign languages, the Common European Framework of Reference for Languages or CEFRL (Council of Europe, 2000) is almost totally absent from the syllabuses: this is understandable, given the publication years of most syllabuses, but this tool, more and more used in the national education systems¹², should become a reference in the European Schools too.

3.3.3. The European hours (primary school)

The European Schools' curriculum includes a subject which is very specific, and closely linked to the objectives and the environment provided by those schools: the «European hours». Indeed, in the 3rd, 4th and 5th grades (primary school), one and a half hours per week are allocated to a very large and open set of non disciplinary activities oriented toward objectives concerning European identity, interculturality, tolerance, respect for the others and their differences, initiative, solidarity.

The syllabus (*European hours in the primary cycle of the European Schools*) gives orientations and a frame, as well as a few examples, but it lists neither contents to teach nor activities to organise. Two specific and interesting features of this program must be underlined: the grouping of pupils belonging to different classes, which is meant to contribute to foreign language use and

¹² The important work toward a European indicator for linguistic competencies, in progress, will be based on this CEFRL too.

to reinforce the contacts between students of different origins, and a large room made to local autonomy, every school having the possibility of taking into account its resources and its environment. However, such openness could lead to unexpected practices and an assessment, meant to help sharing the blessings of the various initiatives and to detect any possible difficulty or misinterpretation of the intents, would be useful.

3.3.4. Science education

Amongst the objectives detailed in the European Schools booklet, *to develop mathematical and scientific skills throughout the whole period of schooling* immediately follows the development of foreign languages. We decided to focus on science education, as this topic seems of crucial importance nowadays, both because of the need of specialists in this area and because everyone needs to have some scientific background in order to be an «active citizen».

The importance of this goal in European Schools is reflected in the fact that **all** the students have to attend compulsory science lessons, from the beginning to the end of their schooling, from *Discovery of the world* at primary level, via an integrated science course in S1 to S3, biology, chemistry and physics in S4 and S5, and at least biology in S6 and S7. More optional courses and labs are proposed as options in S6 and S7.

It is interesting to examine the most important characteristics of the programs, especially at the beginning: the crucial point, according to researchers in science didactics is more to catch and strengthen the interest of all the pupils than to teach to the most advanced and motivated students.

Primary school

The purpose of the *Discovery of the world* curriculum (Ref.: 2002-D-7710-en-3) *should be to create a responsible individual, a future European citizen, an informed consumer; someone who is aware of human rights, balance, heritage, openness to others and to the wider world.*

More precisely, amongst general aims, we find the following ones: *to develop scientific methods and thinking as well as biological, technological, geographical, historical and socio-cultural approaches, [...] act and behave in a way that is consistent with the knowledge acquired [...] and realise that the child can play an active part in its present surroundings and in tomorrow's world.* Such aims are fully in line with current views about science education goals (OECD, 2006b), for knowledge as well as attitudes, like those used for the OECD international PISA science evaluation framework. They refer to contemporary societal issues, as it can be found in almost all educational systems analysed by Eurydice (2006b - 28 out of 32).

From a methodological point of view, the syllabus recommends that *teaching should encourage pupils to **observe** inside and outside the classroom. It should also provide opportunities to **measure** and to **classify**, to **experiment** and to find out information through research. Science lessons are not teacher centred but pupils will encounter models and investigations with the possibility for **trial and error**.* This approach has the characteristics of the problem based methods, as the one promoted as the most efficient by the EU high level experts team (European Commission, 2007): the IBSE (Investigation Based Scientific Education).

Another asset here is the existence of competence grids which are also the tools for communicating to parents about their child's progress.

There is nevertheless one negative feature: no reference to history is to be seen here, despite the importance of this aspect in order to build a good comprehension of what scientific knowledge is. This is anyway also the case in the majority of EU27 educational systems (22 systems out of 32) according to Eurydice (2006b) report.

Secondary school

In the *Integrated science syllabus* (Ref.: 2004-D-4010-en-3), this course is referred to as an introduction to further study in years 4 and 5. The purpose is *not merely about the acquisition of facts and of experimental results, but also the ability to plan and execute experiments to test hypotheses*, in order to get pupils familiar with the basic notion that the careful observation of natural processes and of experiments, and the application of disciplined thought to these, is how scientific understanding begins and develops.

The methodology prescribed should be laboratory based as often as possible and should follow the *classical methodology of science: the accent should therefore be on the carrying of experiments, the making and reporting of observations and measurements and, where appropriate, the design of follow up experiment. The use of modern method of observing and recording data should be encouraged.*

Aims and methodology are still in the line of up to date science education perspective and **contemporary societal issues** are present in the beginning of this syllabus: *Particular emphasis should be placed upon issues such as the protection of the natural environment, the conservation of resources and the pollution of the environment by human agency. Pupils should also be introduced to the need to discuss ecological questions concerned with the implications of technological and scientific progress, and the opportunities and dangers these present for society and for the individual.*

As in primary European Schools, the contextual **historical** dimension is **not mentioned** in the curriculum, which is the case in 21 programs out of 32 and the contemporary issues are present, as in all the European educational systems.

Another good point is about **teachers' cooperation**. Science teachers' qualification is often seen as a sensitive area... As written in the syllabus, teachers involved in *Integrated science teaching* cannot all be specialists in all subjects. In order to help them for lab work preparation, worksheets have been prepared by the 'Integrated Science' Working Group.

During S4 and S5, Physics and Chemistry are altogether a final program for some pupils and an intermediate program for those who will go on with these lessons in the 6th and 7th years (All the students will continue with at least 2 periods of biology). According to the *Physics program* (Ref.: 96-D-164-en), the aims are, as usual, to contribute to an informed citizen, but also to prepare for further study in science. The historical developments of science appear for the first time here. This syllabus is the oldest in scientific domains (1996), and some sentences look old fashioned, like this general aim: *to help make accessible to pupils the intellectual satisfaction which can come from an appreciation of the elegance, power and beauty of the scientific conception of the universe.*

The Chemistry syllabus (Ref.: 2004-d-72-en3) gathers modules for S4 to S7. The preamble is short but must be considered positively: *although the teacher is free to choose the method by which the program is taught, she/he is encouraged to include the everyday application of chemistry and experimental work.*

The aims and methodology are more developed in the Biology Program (Ref.: 2002-d-66), in terms of attitudes towards biology, methodological aims, technical skills and knowledge and understanding. When it is about the 4 periods course, various methodological approaches and various supports are suggested, like practical work, lectures, use of audiovisual materials, use of computers, *e.g.* data analysis by spreadsheets, simulations, information gathering from CD ROMs and the Internet, guided individual study, seminars and discussions, talks by students, use of media articles and, last but not least, visits to research institutes, museums and exhibitions, as if the most interesting things were for the already most interested students...

By way of conclusion, it is worth knowing that nothing has been read in all those science syllabuses about the fact that girls should benefit from particular science learning methodology. Maybe girls educated in European Schools don't need additional science motivation...

3.3.5. Support to the students meeting difficulties

The European Parliament requests that the teaching in the European Schools becomes more diversified and takes more and more into account the difficulties of some students. Support to those students is all the more important since the European Schools only organise a general track and that their curriculum is demanding. The support to the students who meet difficulties has been developed and systematised recently (from 2003 to 2007).

Learning support for various learning difficulties

This kind of support (*Learning support in the nursery and primary cycles* - Reference: 2004-D-4110-en-3) aims at providing the students that meet difficulties that the teacher cannot resolve by him/herself with a specialised help. Although in the nursery and in the primary school the beneficiaries are all the pupils meeting learning difficulties, the support is intended for *«pupils who we assume access the whole program and are able to make progress within the European school curriculum.»* (2005, p. 3) and if it is recommended to provide learning support in all subjects in the five first grades of the secondary school, this should be reserved to *«exceptional cases»* in the last two grades.

The learning support relies on a team work implying notably a coordinator and specialised teachers, as well as the teachers in charge of the subjects concerned and a partnership with parents. At the basis of the support is an individual education plan, evaluated at regular intervals. The pupils can be helped in their regular class, or outside of it, individually or in groups.

Interestingly, in order to allow an early intervention, if necessary, the parents are requested to complete a pupil profile for each child entering the nursery school.

Agreements about integration of special education need students (SEN)

The integration of a special education needs student is built on an agreement between the school and his/her parents, which defines «*the acceptance conditions, the individual teaching and learning scheme (educational and pedagogical), the pedagogical and financial support which the school will be able to provide and the contribution to be made by the parents, in the form of intervention and input benefiting the pupil, normally outside school*» (*Integration of SEN pupils into the European School* - Reference: 2003-D-4710-en.6, 2003, p. 11). The student is only admitted if the school can adequately take him/her in charge, and integrate him/her in a regular class, with a share benefit for the SEN child and for the other students.

Support to students without a language section (SWALS)

A third type of assistance intends to give an adequate response to the unavailability of a section corresponding to the mother tongue of some pupils (students without a language section or SWALS): those pupils benefit of a teaching of their mother tongue, and also of a specific program aimed at helping them to become integrated and to allow them to take benefit from the courses taught in their section's language as soon as possible (*Integration of students without a language section* - Reference: 2003-D-7710-en-3).

4. ANALYSIS OF THE ANSWERS TO THE SURVEY

4.1. Introduction

This chapter gives an overview of the (statistical) analysis of the answers to the electronic survey, starting first with some information about the representativeness of the survey, and then continuing with an analysis per topic (academic and professional career *sensu stricto* and *sensu lato*).

4.2. Representativeness of the survey

4.2.1. Introduction

As was already said in the chapter 2, in a general way, the schools did not have well structured data bases with up to date contact data of their graduates. They have of course contact data of the parents whose children were or still are studying at their school, but once these children have left, these contact data are kept on file, but are not put up to date; moreover, these contact data concern the parents, and not the graduates. Hence it was deemed necessary to use complementary sources with contact data, which were (in no particular order):

- *ad hoc*-data files with e-mail addresses, collected by the school management from their pupils and graduates (*e.g.* on the occasion of an important anniversary of the school)
- the parents' associations, through Interparents
- the staff of the European Institutions, through the «newsletters» addressed to them
- Internet sites like FaceBook and more specific predecessors YourSchool and Euresco.

All in all, we received from the schools nearly 10,000 addresses, of which about 84% postal ones and 16% e-mail addresses. These were supplemented with about 3,000 e-mail addresses from the website YourSchool, but part of these are most probably also present in the list with e-mail addresses we received from the schools. According to a rough estimation, this would mean that we reached individually about 1 out of 3 graduates (since the very beginning of the European Schools), to which is to be added an unknown number of contacts through FaceBook and Euresco, and also an unknown number of «chain reaction» or «snowball» contacts.

Since it was decided that the information would be collected by means of an electronic survey accessible on the Internet, a risk of further bias towards younger people could exist, if it were not that we can reasonably expect that most if not all graduates of the European Schools, independent of their age, have access to the Internet.

Although we do recognise that the sampling was inevitably biased towards the more recent cohorts, we did not feel this would harm the quality of the study, since obviously any analysis that aims to find out the strengths and weaknesses of a system in existence for nearly 50 years now, is better based on information pertaining to the current situation than to historical information which is no longer valid today. This being said, we have of course verified the representativeness of the survey as objectively as possible, on the basis of the indicators that are described in the following paragraphs.

4.2.2. Global reply rate

In total, we received just short of 3,000 answers (2,987 to be precise). This comes to a reply rate of about 25% in terms of people contacted, and of roughly 8.5% in terms of graduates of the European Schools since the very beginning. Indeed, although we have not found exact numbers for the latter, we can make a very rough estimate on the basis of the following reasoning:

- in recent years, the total number of pupils, nursery + primary + secondary level, is (in round figures) 20,000
- if we suppose that they are evenly divided over the $2 + 5 + 7 = 14$ years of the three levels together, the number of pupils in the final year of the secondary level should be around 1,400
- this last number applies, of course, to EU25/27, and hence is much larger than the number at the setting up of the system (EU6); let us suppose that on average, the number of graduates since the system was put in place was half of the recent number, *i.e.* $1,400 : 2 = 700$ per year
- taking into account that the first European baccalaureate was organized in 1959, *i.e.* about 50 years ago, the total number of graduates should be around $700 \times 50 = 35,000$
- hence, the 3,000 answers received correspond to roughly 8.5% of the total.

Again, given the fact that the schools had not collected and updated contact data in a systematic and well structured way, we think this rate is more than satisfactory.

About 66% of the respondents have filled in their first names, and slightly over 60% also gave their family name, which seems to indicate that a substantial part did not really make an issue of the confidentiality of their answers. Moreover, about 80% of the respondents have left their e-mail address, which we asked for in case they were interested in receiving a summary of the conclusions of our analysis.

63% of the respondents filled in the English version of the questionnaire, and 37% the French one. A more detailed analysis per country of origin of the respondents is given in the following table:

Table 3: Respondents per country of origin

Country	Percentage	Country (cont'd)	Percentage
AT	0.5%	MT	0.0%
BE	8.7%	NL	7.3%
BG	0.0%	PL	0.2%
CY	0.0%	PT	4.2%
CZ	0.1%	RO	0.0%
DE	12.0%	SE	0.7%
DK	2.7%	SI	0.1%
EE	0.2%	SK	0.0%
ES	4.5%	UK	7.1%
FI	0.6%	Mixed, but at least 1 EU	21.8%
FR	7.9%	Non EU or unknown	3.6%
GR	2.2%	Total	100.-%
HU	0.1%	of which EU6	49.1%
IE	2.1%	of which EU10\EU6	14.1%
IT	10.7%	of which EU12\EU10	8.7%
LT	0.1%	of which EU15\EU12	1.8%
LU	2.6%	of which EU27\EU15	0.9%
LV	0.2%	\ means: without	

We have also analysed the representativeness of the respondents on the basis of their mother tongue. These results are summarized in the following table, in descending order of importance:

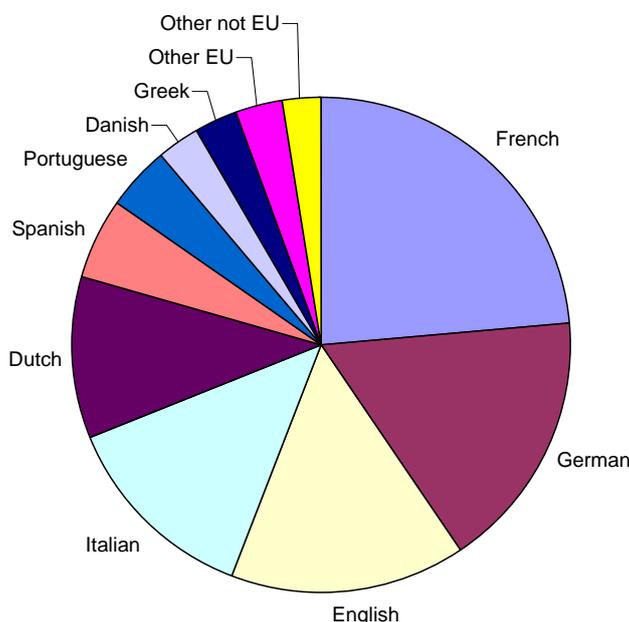
Table 4: Respondents per mother tongue

Language	Percentage	Language (cont'd)	Percentage
French	27.7%	Estonian	0.31%
German	19.8%	Latvian	0.21%
English	17.8%	Slovenian	0.17%
Italian	15.2%	Czech	0.07%
Dutch	12.3%	Hungarian	0.07%
Spanish	6.3%	Irish	0.07%
Portuguese	4.7%	Bulgarian	0.03%
Danish	3.4%	Romanian	0.03%
Greek	3.3%	Slovak	0.03%
Swedish	1.5%	Lithuanian or Maltese	—
Finnish	0.7%	Other	3.0%
Polish	0.4%	Total	117.0%

The fact that the percentages add up to 117% is due to the fact that 17% of the respondents have indicated they have more than one mother tongue.

In the following paragraphs, especially the ones on the mobility aspects of the academic and professional careers of the graduates (4.3.3. and 4.3.5.), the statistic results will be shown for the three most numerically important languages, which are, not surprisingly, also the so-called vehicular or working languages of the European Schools (French, German and English). More detailed analyses for the other languages will be shown in the appendix 5, at least insofar we received a sufficient number of answers to make the statistics per language representative; the threshold was fixed at a minimum of 3% of the answers (or, in absolute terms, given the fact that we received nearly 3,000 answers, at about 100 graduates for a given language). In practice, 9 languages satisfy this condition, as is also shown in the following figure.

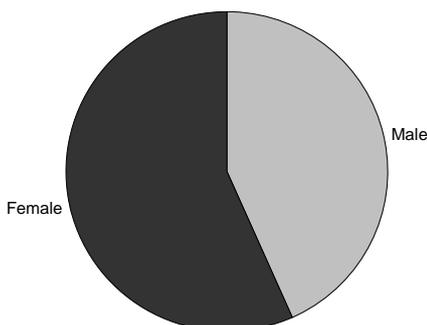
Figure 2: Mother tongue of respondents



4.2.3. Replies by gender

57% of the respondents were female and 43% were male. When looking at the figures per survey language, the gap between female and male respondents is bigger for the French version (60% female versus 40% male) than for the English version (55% female against 45% male). We have no explanation for these differences. Note that the graduates of the last five school years were composed of 51% girls and 49% boys (*source: Secretary General of the ES*).

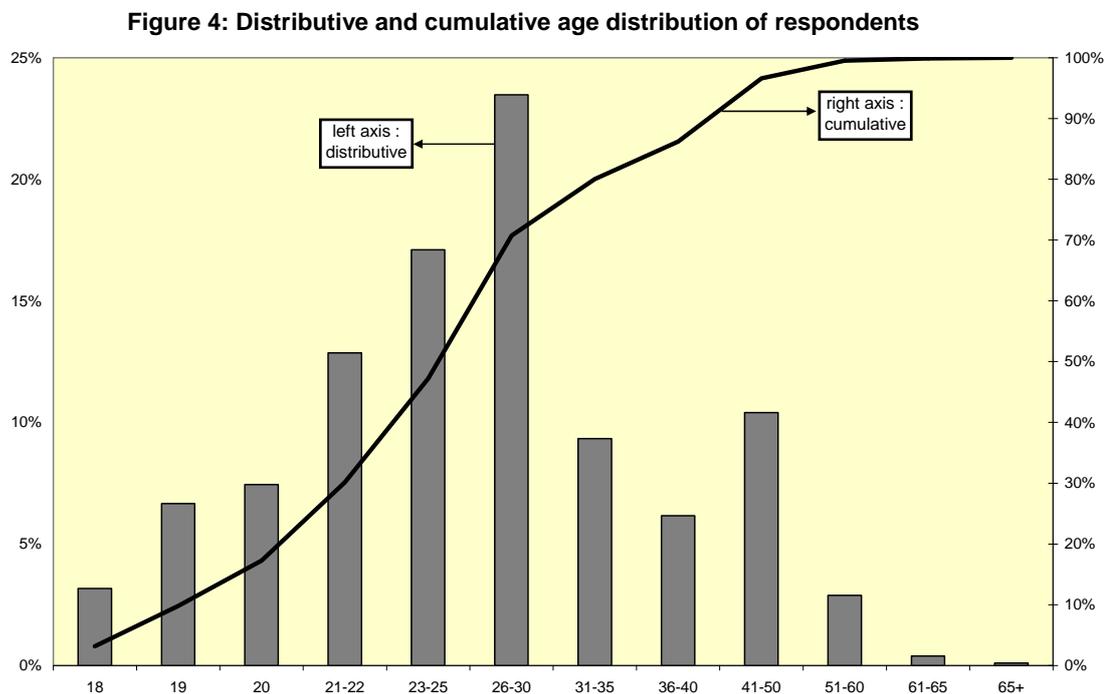
Figure 3: Gender of respondents



4.2.4. Replies by age

As already explained, our sampling was inevitably biased towards the more recent cohorts of graduates. Nevertheless, we did receive answers from all age categories, as is shown by the following figures: 30% of the respondents are between 18 and 22 (being the average starting and ending year of tertiary education) — 17% are between 23 and 25, ages that can be considered as the starting points of professional careers) — 53% are older than 26, and hence can be considered as fulfilling a professional career; of these, about 3 out of 10 are older than 40 and about 1 out of 10 are older than 50, which means that we do have a significant number of answers from people whose professional careers should be well established.

The distributive and cumulative age distribution is shown in the following figure. Note that the width of the age ranges that have been considered are not identical, but vary from 1 to 10 years (or theoretically even more, in the case of the 65+ graduates).



4.2.5. Replies by source of contact points

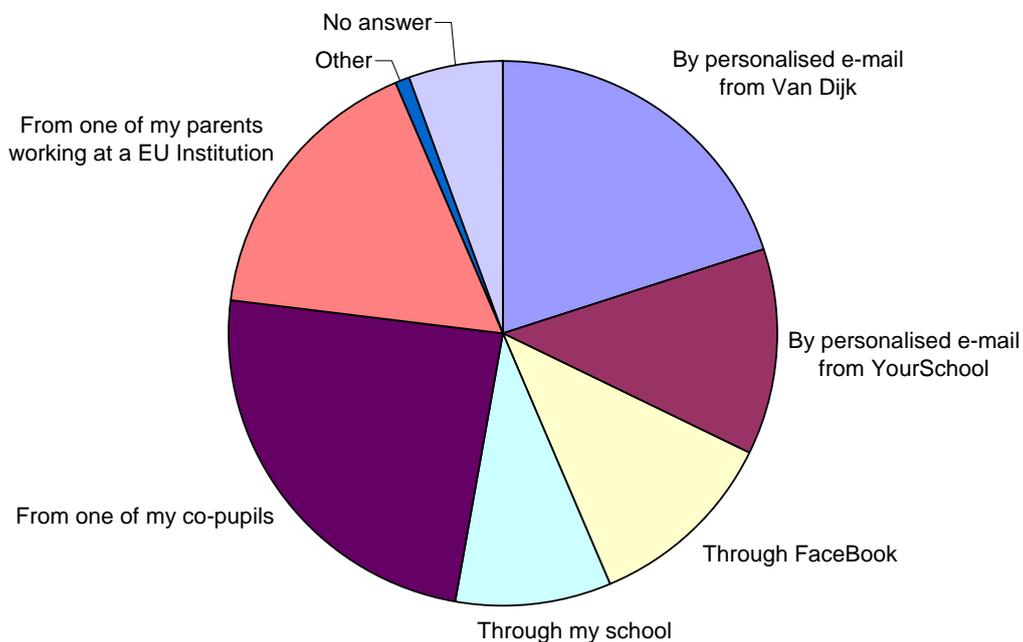
Although this has more a methodological than a sociological relevance, we deemed it relevant to analyse the channels by which the respondents had been made aware of the existence of the survey. This analysis yielded the following results:

Table 5: Channels by which the respondents have been asked to participate in the survey

27.1%	have reacted on an e-mail that was sent either by the consultants of van Dijk or by YourSchool
15.0%	have been informed either directly by an e-mail from their employer (being a European Institution) or by one of their parents working for a European Institution
12.5%	have been informed through a letter they received (or, more correctly, their parents had received) from the consultants
1.1%	have been informed by their parents who had themselves been informed by Inter-parents
37.4%	have been informed about the survey either by a member of their family, a co-pupil or by a colleague or friend who are themselves graduates and had been informed in a non specified way
6.9%	either were informed through several channels, or did not specify the way in which they had been informed

This is also represented in the following chart.

Figure 5: Channels by which the respondents have been asked to participate in the survey



4.2.6. Replies by European School

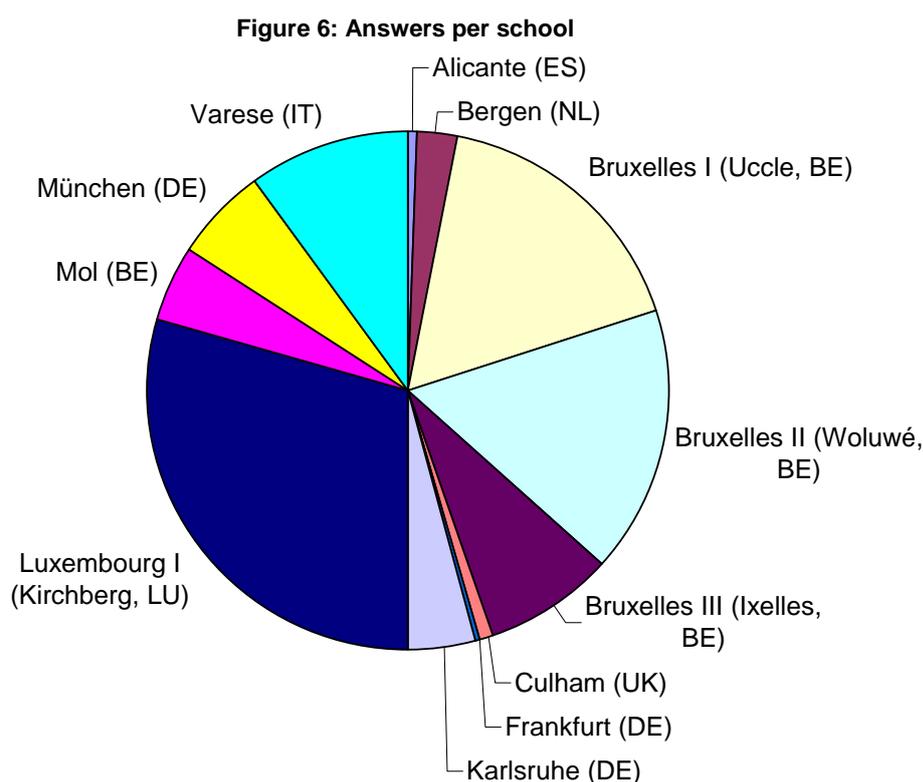
The European Schools system actually comprises 14 schools, 2 of which (Brussels IV and Luxembourg II) have not yet delivered any baccalaureates; hence, graduates participating in the survey could come from only 12 different schools.

Table 6: Answers per school

	respondents	current school population
Alicante (ES)	0.4%	5.1%
Bergen (NL)	2.5%	2.8%
Bruxelles I (Uccle, BE)	17.1%	15.3%
Bruxelles II (Woluwé, BE)	16.6%	14.5%
Bruxelles III (Ixelles, BE)	8.0%	13.1%
Culham (UK)	1.0%	4.1%
Frankfurt (DE)	0.3%	4.9%
Karlsruhe (DE)	4.1%	5.0%
Luxembourg I (Kirchberg, LU)	29.3%	16.9%
Mol (BE)	4.7%	3.3%
München (DE)	5.9%	8.4%
Varese (IT)	10.0%	6.6%
Total	100.-%	100.-%
Of which «big» schools	71.0%	59.8%
Of which «small» schools	29.0%	40.2%

We have defined the «big» schools as being the ones in Brussels and Luxembourg; they represent 71% of the answers received, compared to 60 % of the total school population (for the school year 2006-2007). Note that it would have been more relevant to make a comparison with the **cumulative** number of graduates from each school since its start, but these figures are not always available. Also note that especially the school of Varese is well represented, thanks to the fact that this school was able to provide us with e-mail addresses of all their graduates.

This is also represented on the following chart.



4.2.7. Replies by number of years spent at a European School

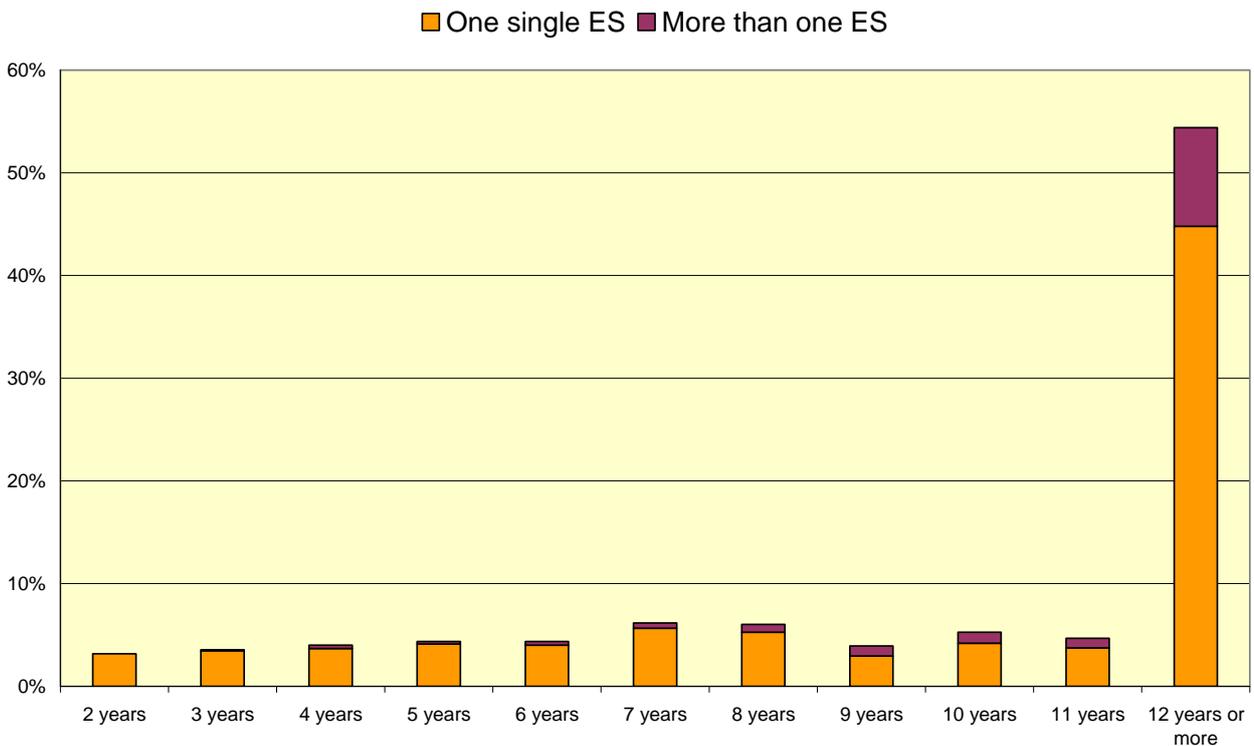
We have also verified how many years the respondents spent at one or more European Schools. Remember that the minimum number to obtain the European Baccalaureate is two years. The results are summarized in the following table. Note also that, based on the answers to another question, it appears that 87% of the respondents studied at just one single European School.

Table 7: Number of years spent within the European Schools' system

number of years spent at ES	fraction of respondents
2	3%
3	4%
4	4%
5	4%
6	4%
7	6%
8	6%
9	4%
10	5%
11	5%
12 or more	54%
total	100%

This is also illustrated in the following chart.

Figure 7: Total number of years spent within the European Schools' system



It is interesting to see that more than half of the respondents (54%) spent 12 years or more (so it is safe to assume: the total primary + secondary cycle) within the European Schools' system, and most often at one and the same school; when considering the pupils staying 7 years or more (the total secondary cycle), this is even 80%. And just short of half of the respondents (45%) even spent 12 years or more at the same European School.

4.3. Results concerning the academic career of the graduates

4.3.1 Introduction

The questionnaire contained several questions concerning the academic career of the graduates; in first instance, the answers to these questions have been analysed separately; in second instance, several cross analyses have been performed. The results will be discussed in the following paragraphs.

4.3.2. Graduates starting an academic career

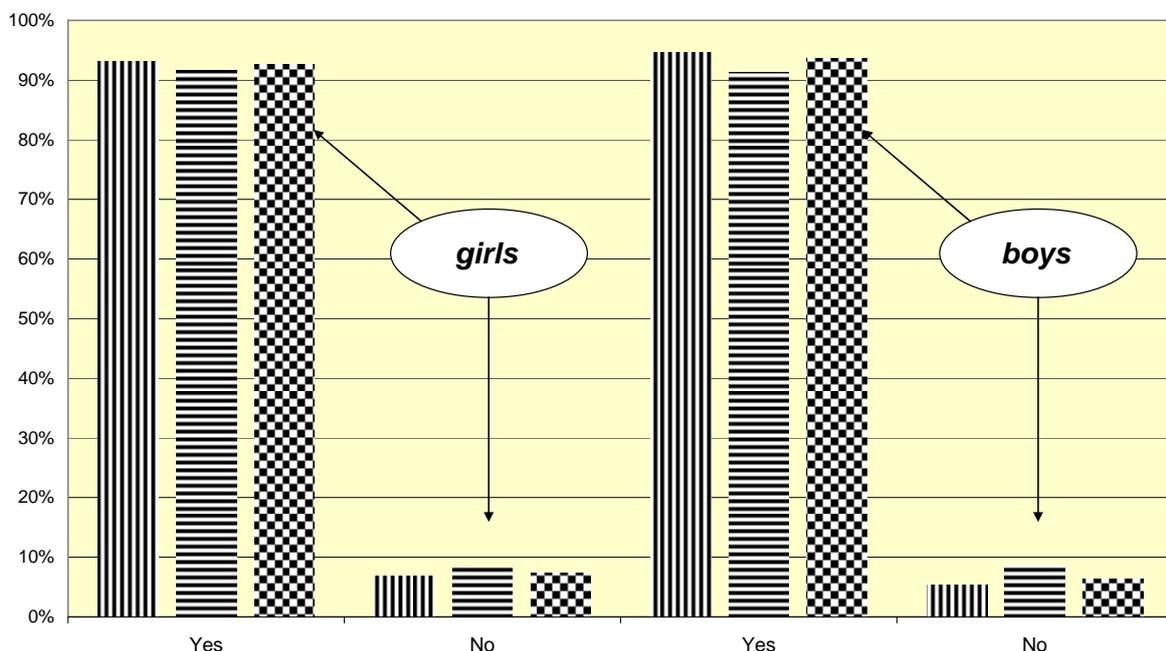
The number of graduates (participating in the survey) who actually start an academic career, *i.e.* follow tertiary education after having obtained their baccalaureate, is very high (*see chart on the next page*): 94% of the boys and 93% of the girls started studying at college or university after their graduation. These percentages are the averages for all the schools together, and are a bit higher in the «big» schools (with figures of 95% for boys and 93% for girls) than in the «smaller» ones (with figures of respectively 91% and 92%).

It is also interesting to notice that a good many graduates study at more than one university or college: 36% of the graduates starting at a given college or university continue their academic career at a second institution, and 14% even continue at a third one.

Note that it is not possible, based on the answers to the survey, to determine exactly how many graduates who started tertiary education, actually also finish it (*i.e.* obtain a diploma), since part of the respondents are still studying. We did, however, make a reasonable estimation which is discussed in paragraph 4.3.5.

Figure 8: Graduates starting an academic career

▨ big school ▩ small school ◻ total



4.3.3. Country and language of academic career

Given the fact that one of the reasons for the European Schools’ system to have been set up, was to allow children to return to their homeland and continue their studies in their mother tongue, it was deemed relevant to verify to which extent such was indeed the case. More practically, information was collected concerning the country in which the graduates started their academic career, and the main language that was used there, as compared to their mother tongue (L0) or the language of their section at their European School (L1). The results are summarized in the following two tables. They apply to the first, second and third university or college that are attended, but, as said in the previous paragraph, the total number of answers are, of course, declining in that order: for every 100 graduates studying at a university or college, only 38 go and continue studying at a second one, and eventually only 15 at a third one.

Table 8: Country where graduates follow(ed) tertiary education

	1 st university or college	2 nd university or college	3 rd university or college
country of my European School, which is also my country of origin	18%	13%	11%
country of origin	38%	35%	31%
country of my European School, which is not my country of origin	14%	9%	11%
other country	30%	43%	46%

It is interesting to note that $18 + 38 = 56\%$ of the graduates start their academic career in their country of origin, but that already 30% do so in another country («another» meaning: not their country of origin nor the country where they went to a European School); the latter percentage raises to 43% and even 46% in the case where students go and study at a second or third university or college in the course of their academic career. These data are also represented in the following chart, where the level 100 corresponds to graduates starting an academic career (which represent 93% of the graduates; see paragraph 4.3.2).

Figure 9: Countries where graduates follow(ed) tertiary education

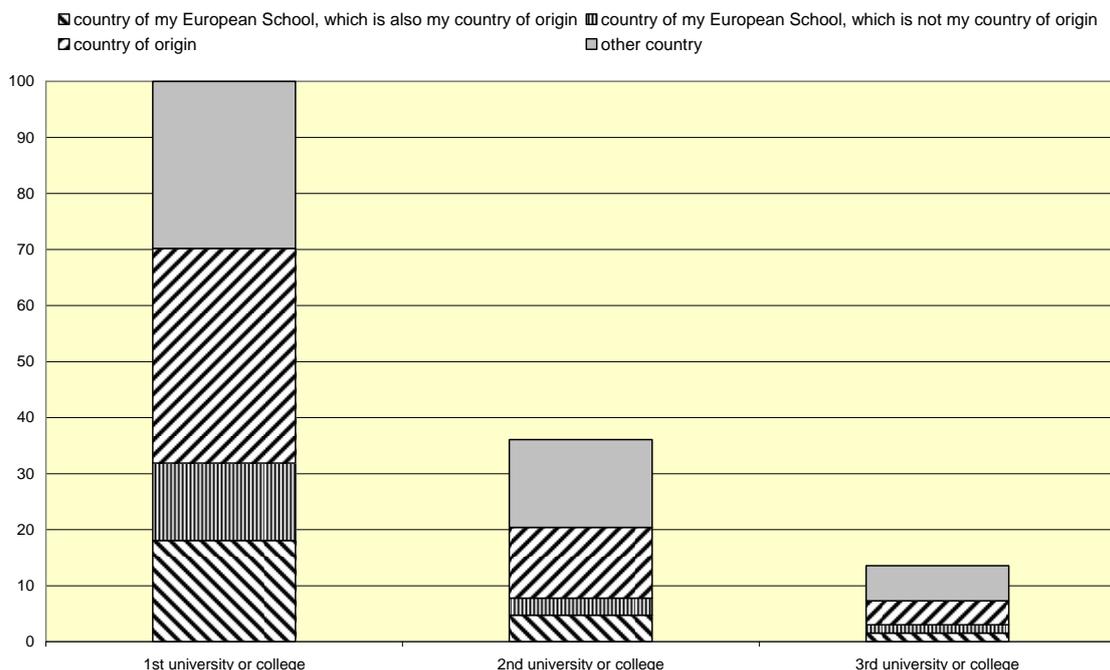
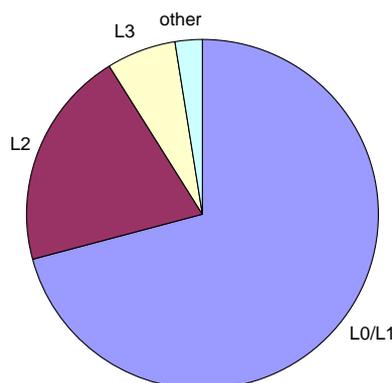


Table 9: Language in which graduates follow(ed) tertiary education

	1 st university or college	2 nd university or college	3 rd university or college
L0/L1	71%	61%	54%
L2 (= first foreign language)	20%	23%	26%
L3 (= second foreign language)	6%	11%	16%
Other	2%	5%	4%

Figure 10: Language in which graduates started their academic career

These results confirm the ones from the preceding table: the geographical mobility (= shift towards other countries than their country of origin) is confirmed by a linguistic flexibility (= shift in languages away from L0/L1 towards first or second foreign languages). But already at the very start of the academic career, about 29% of the graduates opt for tertiary education given neither in their mother tongue nor in the language of their section.

4.3.4. Fields of tertiary education

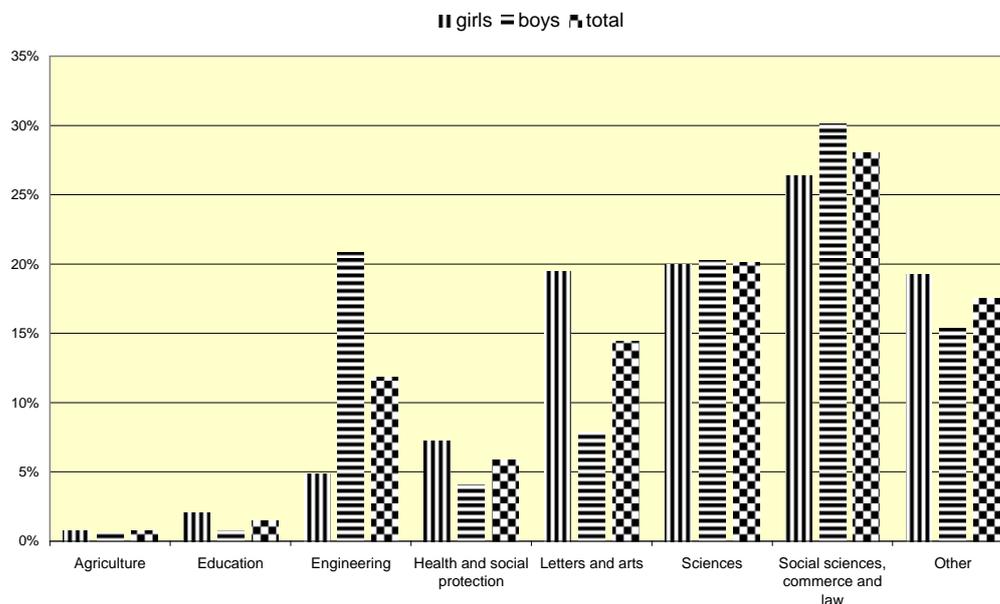
The European Schools' system is known to attach first of all, and quite logically, great attention to the education of foreign languages, but secondly, also to science and mathematics. We have tried to verify to what extent this influences the choice of the graduates in their tertiary education, while crossing this information with gender and with data concerning the options taken at secondary level.

Table 10: Fields of tertiary education

	1 st university or college			2 nd university or college			3 rd university or college		
	girls	boys	total	girls	boys	total	girls	boys	total
agriculture	1%	1%	1%	0%	0%	0%	0%	0%	0%
education	2%	1%	1%	5%	2%	4%	5%	3%	4%
engineering	5%	21%	12%	2%	12%	6%	4%	10%	6%
health and social protection	7%	4%	6%	7%	4%	6%	5%	4%	5%
letters and arts	19%	8%	14%	17%	9%	14%	19%	8%	15%
sciences	20%	20%	20%	17%	18%	18%	16%	16%	16%
social sciences, commerce and law	26%	30%	28%	34%	38%	36%	33%	37%	35%
other	19%	15%	18%	17%	16%	17%	18%	22%	20%
total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Remember that the figures for the 2nd university of college relate to a smaller sample than those of the 1st one; this is *a fortiori* true for the figures for the 3rd university or college. Hence, we shall limit our comments to the values pertaining to the 1st university or college, although we can assume that part of the students who go and continue studying at a second or third university do so to specialise further in the field in which they have started, but part also to add a completely new field to their curriculum (*see also paragraph 4.3.5.*).

Figure 11: Fields of tertiary education



When comparing these results to more general statistics¹³, we notice the high percentage (20%) of sciences, which is about double the value for EU27 (11%); moreover, this percentage is nearly the same for boys as for girls, whereas for EU27, there are nearly two boys studying science for every girl. For engineering, the percentage and the girls/boys relation observed for the European Schools are close to the EU27 ones. On the other hand, the percentage for health and social protection for the European Schools (6%) is only about half the value for EU27 (13%), and especially the figure for education is particularly low: only 1%, versus 10% for EU27. And as far as letters and arts are concerned, the percentage for the European Schools (14%) matches the one for EU27 (13%), which would indicate that the accent that is laid, by the European Schools, on foreign languages and cultures, does not lead to a larger percentage of graduates choosing tertiary education in these fields. In other words, one could say that graduates from European Schools consider foreign languages to the same degree as their fellow graduates throughout Europe to be interesting for studies and job opportunities (or no doubt also for contact with other cultures), but not to be something they should continue specialising in «for the love of the language». In this respect, we like to refer also to table 7 and figure 9.

We have also tried to make a cross analysis between the options taken during secondary, and the fields chosen at tertiary level. First of all, we have analysed the «popularity» of the options, simply by counting the number of graduates that have chosen them; note that every option was counted for 1, independently of the number of weekly hours it represents. This gives the following result, whereby the options are grouped into two categories, alpha or beta (alpha stands for options such as art, economics, history, languages, music and philosophy – beta stands for the science related options such as biology, chemistry, geography, ICT, mathematics and physics).

¹³ Tertiary studies participation, EU27 – Data from Eurostat (2006).

The following table summarizes the percentages of boys or girls taking the options as specified.

Table 11: Options taken at secondary level

«alpha» option	% of girls	% of boys	average %
art	18%	8%	14%
economics (short + long)	16%	28%	21%
history	49%	44%	47%
L1	27%	17%	23%
L2	29%	19%	25%
L3	49%	34%	43%
L4	26%	10%	19%
Latin and/or Old Greek	12%	10%	12%
music	3%	3%	3%
philosophy	26%	49%	36%
total of «alpha» options taken by 100 pupils	256	233	242
biology	49%	38%	44%
chemistry	34%	43%	38%
geography	42%	41%	42%
ICT	3%	6%	5%
mathematics (short + long)	80%	84%	82%
physics	44%	34%	39%
total of «beta» options taken by 100 pupils	252	246	250

The following examples might help to read this table correctly:

- 26% of the girls as compared to 49% of the boys have taken philosophy as an option
- 18% of the girls as compared to only 8% of the boys have taken art as an option.

Although there may be sometimes significant differences between boys and girls on the level of individual options, at the end of the day, *i.e.* when considering all the alpha and all the beta options together, there are hardly any differences, since on average, girls take 2.56 alpha and 2.52 beta options, whereas for boys, these figures are 2.33 and 2.46 respectively. In other words, the analysis of the options does not point in the direction of a predisposition from either boys or girls towards either alpha or beta options¹⁴.

This table also allows us to measure to what extent pupils chose foreign languages as part of the package of optional courses they have to take. When totalling the percentages for L2, L3 and L4, we arrive at an average of 1.04 language options for girls *versus* 0.63 for boys, which seems to indicate that these options are more appealing to girls than to boys, who in turn seem to be more attracted by economics and philosophy. In the beta options, mathematics are chosen as often by boys as by girls, who in turn seem to prefer biology and physics whereas boys seem to be more interested in chemistry.

¹⁴ As already said, these figures are based on the number of options, without considering the number of hours per week they are taught.

Anyhow, the importance attached in the European Schools' system to scientific topics in the compulsory and in the optional courses seems to explain the high percentage of students in scientific tertiary studies. To corroborate this statement, we have analysed the differences in scientific and mathematic options chosen at secondary between graduates who later specialised in these fields (sciences resp. engineering), as compared to the graduates who did not. These results are summarised in the following table.

Table 12: Options taken at secondary level versus fields chosen at tertiary level

Option	% of graduates who studied sciences (at tertiary level) that choose this option (at secondary level)	% of graduates who did not study sciences (at tertiary level) that choose this option (at secondary level)
Biology	55%	39%
Chemistry	66%	30%
Physics	52%	31%
	<i>idem</i> for engineering	<i>idem</i> for engineering
«Long» mathematics	81%	36%

These figures clearly show a relation between the options chosen at secondary and the fields chosen at tertiary level: pupils who opt for sciences or «long» mathematics at secondary, have a bigger chance to choose fields in the same direction at tertiary level, and the percentages of pupils in these fields are, for the European Schools, higher than the EU average. Hence, it is reasonable to state that these options offered at secondary level do, to a significant degree, influence the choice of the graduates concerning their academic career, with, in the case of the European Schools, an upward bias toward science and engineering.

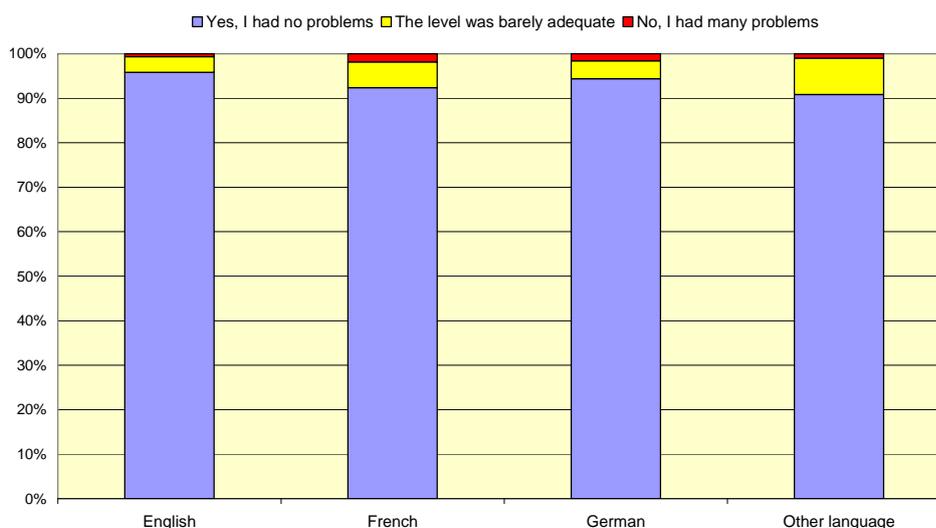
4.3.5. Way in which the ES system prepares graduates for an academic career – success rates (at tertiary level) – failure rates (at secondary level)

In order to find out if the choice of the country/language for the academic career was influenced by the quality of the level of the mother tongue education at the European School, a specific question on this subject was inserted in the questionnaire, which yielded the following results. Note that a distinction was made according to the fact that the graduate had one of the vehicular language (English = EN, French = FR or German = DE) as his or her mother tongue or not:

Table 13: Satisfaction about mother tongue education in view of tertiary education (by mother tongue)

L0/L1	EN	FR	DE	Other ¹⁵
Yes, the level was high enough for my academic career	96%	93%	94%	91%
This level was barely adequate	4%	6%	4%	8%
No, the level was not high enough	1%	2%	2%	1%

¹⁵ We refer to appendix 5 for a more detailed analysis per language with the group «Others».

Figure 12: Was the level of the mother tongue education high enough to start tertiary education ?

Overall, the quality of the mother tongue education was deemed satisfactory, with not more than 1 or 2% of the pupils really complaining about it; the average level seems to be a bit higher for the «vehicular» languages than for the other ones, which can perhaps be explained by the fact that pupils have more opportunities to use and improve their mother tongue when it is one of the more important (vehicular) languages.

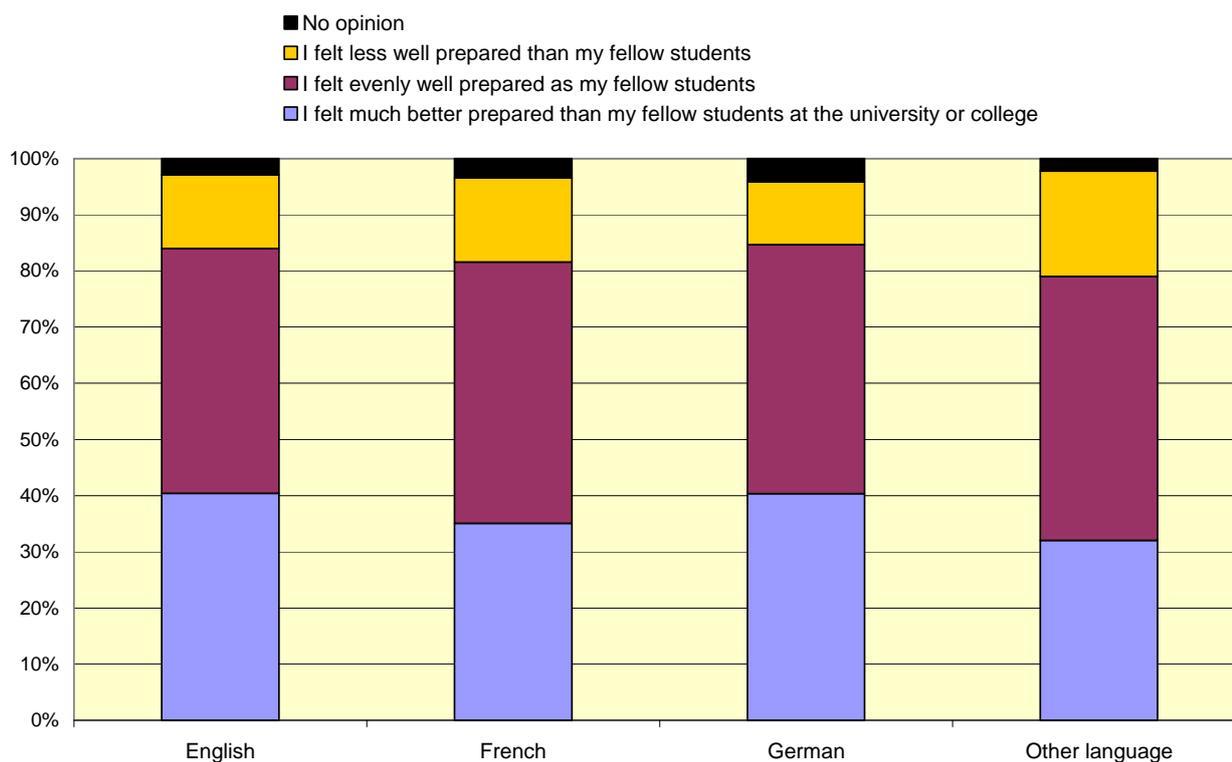
This specific question about the satisfaction by the quality of the mother tongue education was supplemented with a more general question about the way in which the education at a European School prepares graduates to an academic career. The results of this question are summarized in the following table; again a distinction was made according to the graduates' mother tongue.

Table 14: Satisfaction about preparation by European Schools' system to tertiary education according to the graduates' mother tongue

Mother tongue	EN	FR	DE	Other ¹⁶
I felt much better prepared than my fellow students at university or college	40%	35%	40%	32%
I felt evenly well prepared	44%	47%	44%	47%
I felt less well prepared	13%	15%	11%	19%
No opinion	3%	3%	4%	2%

¹⁶ We refer to appendix 5 for a more detailed analysis per language for the group «Other».

Figure 13: Satisfaction about preparation by European Schools' system to tertiary education according to the graduates' mother tongue



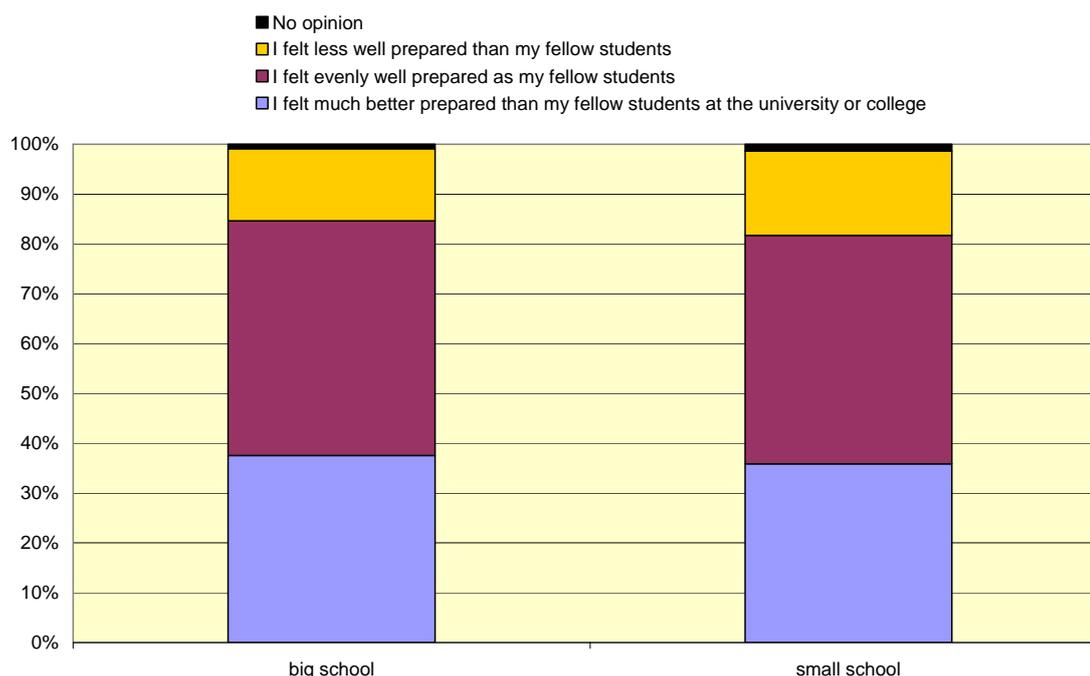
We have also verified if there was a difference in the appreciation between graduates from «big» and from «small» schools. The results of this question are summarized in the following table.

Table 15: Satisfaction about preparation by European Schools' system to tertiary education by school size¹⁷

Size of school	«big»	«small»
I felt much better prepared than my fellow students at university or college	36.8%	35.3%
I felt evenly well prepared	46.1%	45.0%
I felt less well prepared	14.2%	16.6%
No opinion	2.9%	3.1%

¹⁷ We refer to appendix 6 for a more detailed analysis per European School.

Figure 14: Satisfaction about preparation by European Schools' system to tertiary education according to the size of the school



The number of graduates having a vehicular language as their L0 or L1 and declaring that they felt less prepared than their fellow students, varies between 11 and 15%, with an average of 13%; for the other students, this is 19% or about one half more (in relative terms).

These obviously subjective opinions were verified, to the extent possible, with facts and figures concerning the number of graduates starting an academic career that actually finish it (*i.e.* obtained at least a bachelorship or its equivalent), the «speed» with which they succeeded in doing so, and the degrees obtained; these elements are dealt with in the next tables.

The first question, namely how many of the graduates starting a tertiary education eventually are successful, cannot be answered straightaway on the basis of the answers to the questionnaire, since obviously an important fraction of the respondents (about 1 out of 4; *see below*) is still studying, and cannot predict yet if he or she will succeed. It is, however, possible to establish minimum success rates by analysing the number of graduates who stopped their academic career without having obtained a diploma. These figures are summarised in the following table, where the percentages are expressed in terms of total number of graduates, who represent, as we have seen in paragraph 4.3.2, 94% of the total.

Table 16: Success and failure rates at tertiary level

started tertiary education	93.7%
is still studying at 1 st college or university where he/she started	20.4%
left 1 st college or university without diploma, and stopped studying	8.2%
left 1 st college or university but started at 2 nd one	11.4%
of these are still studying at 2 nd college or university	2.7%
of these left 2 nd college or university without diploma, and stopped studying	0.5%
of these left 2 nd college or university but started at 3 rd one	1.0%
of these are still studying at 3 rd college or university	0.4%
of these left 3 rd college or university without diploma	0.1%

As can be seen from these figures, of the total number of graduates (or, more correctly, respondents), 6.3% did not start an academic career, $20.4 + 2.7 + 0.4 = 23.5\%$ are still studying, and $8.2 + 0.5 + 0.1 = 8.8\%$ have stopped their academic career without a diploma. In other words, at least $100 - 6.3 - 23.5 - 8.8 = 61.4\%$ of the respondents have already obtained at least one diploma, and $6.3 + 8.8 = 15.1\%$ definitely have not, whereas for the 23.5% still studying, nothing definitive can be said as yet. If we assume their failure rate to be also 8.8%, or in other words, their success rate to be 91.2%, it would seem reasonable to state that the number of graduates who obtain at least a bachelorship (or its equivalent) should be $61.4 + 23.5 \times 91.2\% = 83\%$. This figure – to be compared to a European average of about 30% – may be somewhat overestimated, since obviously graduates who did not start an academic career at all, would be little motivated to participate in a survey having the academic career as one of its major topics. But it is safe to say that out of every 100 who do start an academic career, $83/93.7\% = 88$ or about 8 out of every 9, obtain at least a bachelorship (or its equivalent).

The figures from the previous table also allow us to draw a conclusion as to the reason why graduates change college or university: as already said (*see paragraph 4.3.4*), for every 100 graduates who start tertiary education at a first college or university, 38 go and continue at a second one; on the other hand, only $11.4/93.7\% \approx 12$ do so because they did not obtain a diploma at the first college or university; this means that about 2 out of 3 graduates who change from a first college or university to a second one, do this for other reasons than the fact that they did not succeed at the first one. This effect is even much more pronounced when looking at the shift between a 2nd and a 3rd college or university. In other words, most of the time the fact that graduates change college or university is a free choice, not based on failure linked reasons; it is thus an indication of their mobility.

Although the success rate seems quite impressive (8 out of every 9 graduates starting a tertiary education also obtain a diploma), we considered it interesting to analyse the number of years students needed to obtain a bachelorship or a mastership (or their equivalents); the minimum number of years required to do so have changed over time, and since the survey covers different ranges of ages (*see paragraph 4.2.4*), these results have to be read with some caution. Also note that the figures are based only on data from students who did not change college or university during the academic career, so they are a bit flattered, but since respondents were not required to detail after how many years without having obtained a diploma they changed university or college to go and try elsewhere, it was not possible to see how many years were needed in such cases to obtain a diploma. On the other hand, the figures do include students who might have switched faculty or direction during their studies at their first college or university.

Table 17: Number of years needed to obtain a bachelorship or mastership (or their equivalents) at first university or college attended

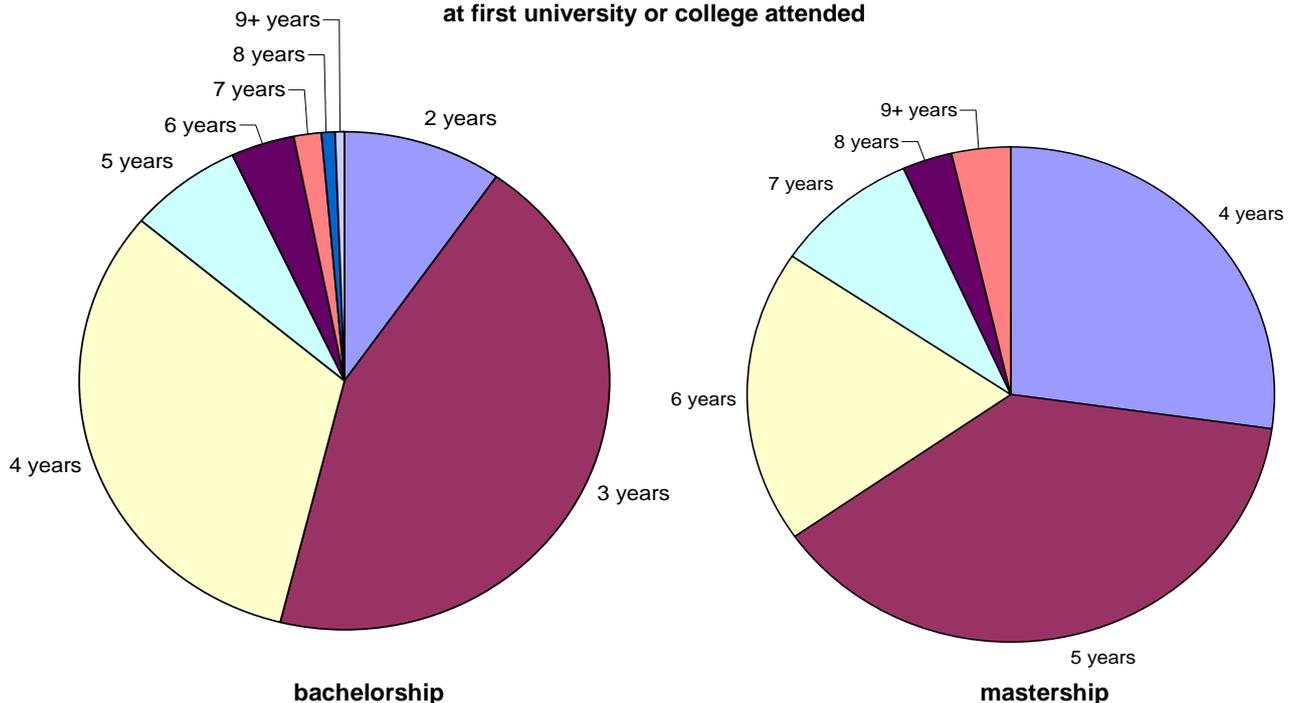
years needed to obtain	bachelorship		mastership	
	distributive	cumulative	distributive	cumulative
2 years	10%	10%		
3 years	44%	54%		
4 years	32%	86%	27%	27%
5 years	7%	93%	38%	65%
6 years	4%	97%	19%	84%
7 years	2%	99%	9%	93%
8 years	1%	99%	3%	96%
9 years or more	1%	100%	4%	100%

The following examples might help to read these figures correctly:

- 44% of the graduates having obtained, as their highest diploma at the first college or university they attended, the one of bachelor, needed (exactly) 3 years to do so
- 86% of the graduates having obtained, as their highest diploma at the first college or university they attended, the one of bachelor, did so after 4 years at the most
- 38% of the graduates having obtained, as their highest diploma at the first college or university they attended, the one of master, needed (exactly) 5 years to do so
- 65% of the graduates having obtained, as their highest diploma at the first college or university they attended, the one of master, did so after 5 years at the most.

These results are also shown in the following chart.

Figure 15: Number of years needed to obtain a bachelorship or mastership (or their equivalents) at first university or college attended



We also analysed the highest level of the diploma for the graduates who already started a professional career (or who, in other words, have finished studying); this yielded the following results:

Table 18: Level of highest tertiary diploma obtained (source for EU data: OECD 2007)

level of highest tertiary diploma	graduates from European Schools	average of EU (25 to 34 years old)
bachelorship or equivalent	30%	29%
mastership or equivalent	54%	} 71%
PhD or equivalent	16%	

Finally, we analysed the cross relation between the rank with which the students obtained their diploma of bachelor, master or their equivalents, and the one with which they obtained their European Baccalaureate, in order to see to what extent this set of examinations is actually measuring the aptitude of graduates to succeed in tertiary education.

Note that the way of scoring results at tertiary level is far from homogeneous throughout Europe; the *ad hoc*-classification used here, defines A as the highest score possible, whereas E is the lowest score still allowing to obtain the diploma; B, C and D represent equidistant intervals in between. These results are summarized in the following table.

Table 19: Cross relation between degree realised at secondary (European Baccalaureate) and tertiary (college or university) level

Degree at college or university →	A	B	C	D	E
Degree for European Baccalaureate ↓					
60-64%	38.7%	32.3%	17.7%	6.5%	4.8%
65-69%	44.3%	30.7%	12.5%	2.3%	10.2%
70-74%	29.1%	49.0%	16.6%	2.0%	3.3%
75-79%	44.3%	43.7%	9.0%	2.4%	0.6%
80-84%	50.7%	39.6%	7.5%	1.5%	0.7%
85-89%	49.4%	40.3%	7.8%	1.3%	1.3%
90 % or more	72.7%	22.7%	4.5%	0.0%	0.0%

The following examples might help reading this table correctly:

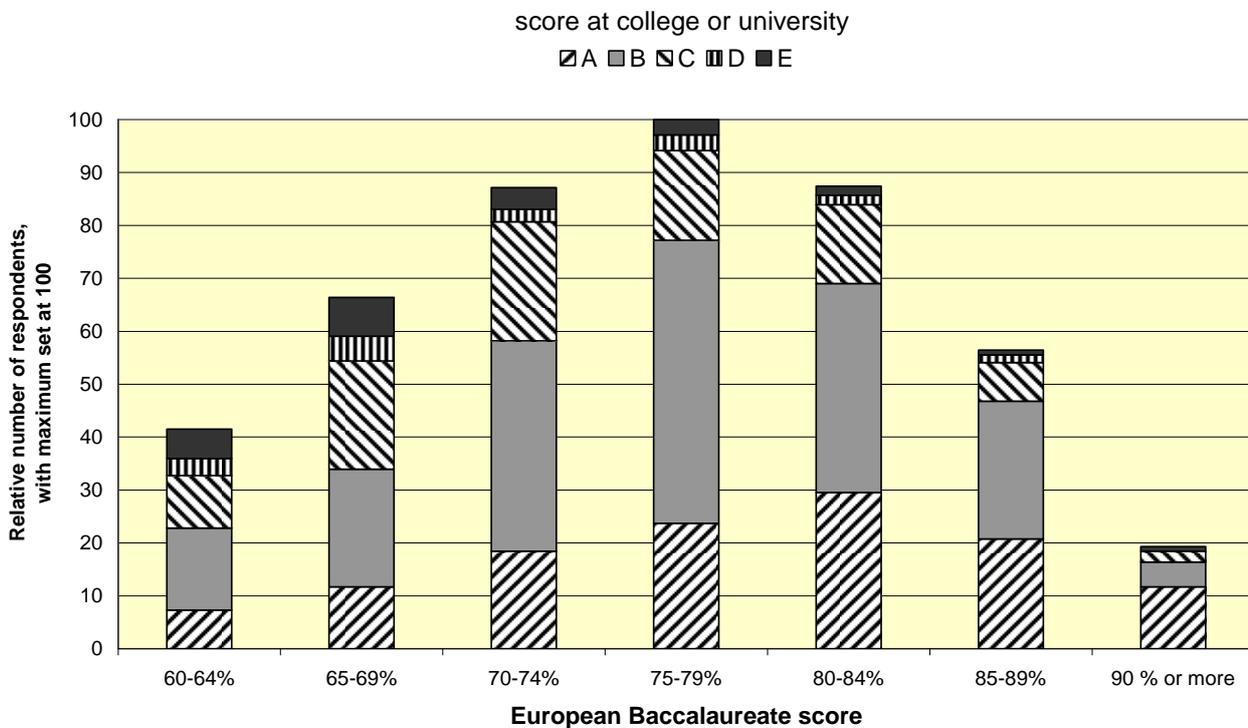
- about 95% (72.7 + 22.7%) of the graduates who obtained their European Baccalaureate with a score of 90% or more, obtained their university diploma with the highest (A) or next to highest (B) scores possible
- about 71% (38.7 + 32.3%) of the graduates who obtained their European Baccalaureate with the lowest score allowed, or just above that (60 to 64%) still were able to obtain their tertiary level diploma with the highest or next to highest scores possible
- when looking at the average score (C) leading to a tertiary diploma, one finds that only about 5% of the graduates who did very well in their European Baccalaureate (90% or more) are now in the middle range, whereas this is true for nearly 18% of the graduates who were much less successful at their European Baccalaureate (with only 60 to 64%).

These results are also represented in the following chart, where the highest number of pupils within a given score range at European Baccalaureate (*de facto*: 75-79%) has been set at 100.

So all in all, it would seem that pupils who perform brilliantly in their European Baccalaureate, will also perform very well in their tertiary education, but people who were just over the minimum for obtaining the European Baccalaureate, might still perform very well too. And to the extent that most pupils from the European Schools indeed pass their European Baccalaureate, it would seem that the European Schools' system lays a good fundament for succeeding in tertiary education as well.

This statement has, of course, to be verified by considering also the «drop out» issue (*see paragraph 4.2.6.*). And although the overwhelming majority of the graduates seem to perform well at tertiary level, this does not mean necessarily that all of them were performing all that well during their secondary studies.

Figure 16: Cross relation between score for European Baccalaureate and score at college or university



In order to verify this, the survey contained a number of questions concerning the need to repeat classes (so-called «doubling») while attending a European School, and the reasons for this phenomenon. Note first that the European Schools' system has recourse to doubling, which is indeed seen as a natural practice in some EU countries, but which is almost totally absent in many other countries (notably the Nordic countries and the UK). The results are summarized in the following table:

Table 20: «Doubling» of classes

	no «doubling»	1 year	2 years or more
boys	78%	16%	7%
girls	87%	11%	3%
total	83%	13%	4%

This is also illustrated in the following chart.

Figure 17: «Doubling» of classes



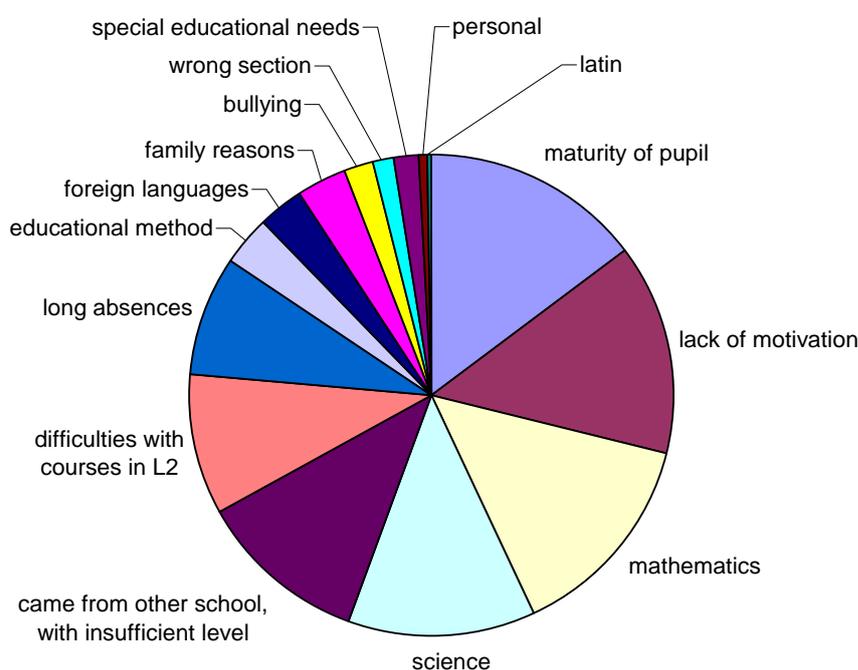
Among the graduates of the European Schools who answered the survey, boys have repeated classes more often than girls: only 14% of the latter have had to «repeat» one year or more, whereas this is the case for 23% of the boys. Those results are globally consistent with those of the survey Pisa 2003: in a sample of the 15 year-olds representative of 20 out of the 27 countries of the European Union, 14% of the girls but 20% of the boys (altogether 17%) had already repeated at least once. The Pisa survey also confirms the huge difference in the policy of the countries about grade repetition: for instance, the percentage of the students who are on time reaches 97 in Finland but only 62 in Luxemburg¹⁸. The reasons for repeating selected by the respondents to our survey were as follows (no distinction is made between boys and girls):

¹⁸ Christian Monsieur, personal communication.

**Table 21: Reasons for repeating classes
(in descending order of importance)**

lack of maturity	14.6%
lack of motivation	14.4%
level of mathematics	14.1%
level of science	12.5%
came from other school, with insufficient level	11.2%
difficulties with courses in L2	9.5%
long absences (<i>e.g.</i> illness)	8.0%
educational method	3.3%
level of foreign languages	3.3%
family reasons	3.1%
bullying (by a teacher)	1.9%
wrong language section	1.6%
special educational needs not met (<i>e.g.</i> dyslexia)	1.5%
personal reasons	0.6%
Latin	0.3%

This is also illustrated on the following chart.

Figure 18: Reasons for repeating classes

Note that these reasons were given by the graduates themselves, and thus might lack some objectivity, especially concerning the aspect «bullying by a teacher». Note also that in many cases, the respondents have given more than one reason. Anyhow, the most frequently cited reason is maturity, meaning that pupils were having problems with nearly all the courses, and that it was deemed better to have them repeat a class. The second most frequently mentioned reason is lack of motivation, and this might need some further looking into, but this fell outside the scope of this study.

Note too that the (too high) levels of mathematics and sciences are often mentioned too (by one out of every 7 to one out of every 8 pupils), which corroborates with the observation of the importance the European Schools' system attaches to these courses. Conversely, problems with languages are mentioned **altogether** by no more than 1 out of every 30 pupils, and although some pupils might underestimate the teaching language's impact on the difficulties they have with other questions, it seems reasonable to say that the important place occupied by foreign languages in the European Schools' curricula does not constitute a more than average difficulty from the students' point of view.

4.4. Results concerning the social background of the graduates

4.4.1. Introduction

The social background of the pupils was one of the elements that needed to be looked into in more detail. Obviously, given the primary *raison d'être* of the European schools (*i.e.* offering education in their mother tongue to children of employees of the European Institutions), it is understandable that the composition of the social background of the graduates will differ significantly from the average social background of a «normal» school population. On the other hand, it should not be forgotten that the schools are also open, within certain limits, to children from other families too. Hence the relevance of this type of analysis, whereby the «social background» was expressed in terms of, on the one hand side, the professional level of the (step-) father and the (step-)mother, and on the other hand side, the level of their education.

To this is added in the first place, an analysis in terms of the existing categories I, II and III, although these statistics are well known and add little new to the subject; we have preferred, however, to show them in order to prove the representativeness of the survey.

In order to make this information understandable and internally comparable, a classification of the professional occupations was used (*see appendix 4*), which resulted in five levels (to which a number 1 to 5 was assigned, 1 corresponding to the highest level, and 5 to the lowest level; these number were assigned by the consultants, based on a more descriptive classification that was used in the survey, and which contained about 40 job classes). In the final stage, the highest level of either the (step-)father or the (step-)mother was taken to measure the social background level of family of the graduates.

The «big» schools (in Brussels and Luxembourg) have only a limited number of places open to children from families of which none of the parents is working for a European Institution; the «small» schools, on the contrary, do have such places available to a relative important degree. Hence, it was deemed relevant to make a distinction in the social background of graduates from «big» as compared to «small» schools.

Finally, some statistics are added that can shed light on the social background of the parents, in the first place an analysis of their reason(s) why they send their children to a European School.

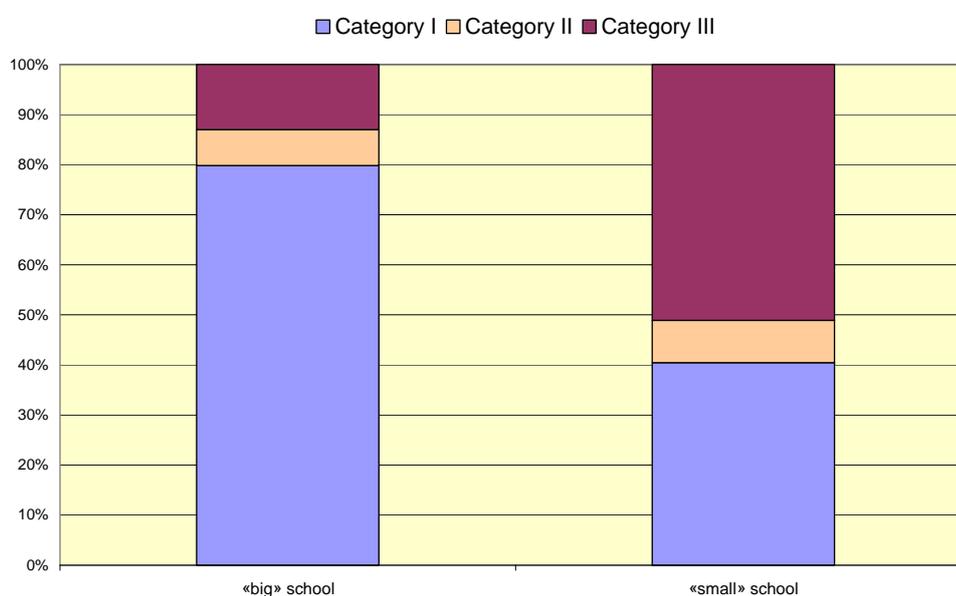
4.4.2. Social background as measured by the category of the parents

The following table gives details on the categories of the families of the respondents to the survey, where a distinction was made between the «big» schools and the «small» schools, for the reason mentioned in the introduction above.

Table 22: Composition of the families according to their category

Category	«big» schools	«small» schools	total
I (at least one parent is working at a European Institution – no school fees have to be paid)	80%	40%	68%
II (no parents working for a European Institution, but the employer pays the school fees)	7%	8%	8%
III (no parents working for a European Institution, and the parents pay the school fees)	13%	51%	24%

Figure 19: Distribution of the families according to the ES categories



Note that the overall composition of the respondents corresponds well to the real composition, which was (in 2006): 68% of category I, 6% of category II and 26% of category III; this confirms the conclusions of paragraph 4.2 concerning the representativeness of the survey.

The figures in this table clearly illustrate that in the «small» schools, just over half of the graduates (who responded to the survey) come from families who have to pay themselves for the school fees, whereas in the «big» schools, this is the case for only about one out of every 7 or 8 pupils; on average, it is the case for about one out of every 4 pupils. Please note that the category I is composed of employees of European Institutions of the levels A^(*), B^(*), C^(*) and D^(*), so that this table and chart do not yet give much insight into the actual social level of the graduates' families, which is more clear from the following paragraphs.

4.4.3. Social background as measured by the professional level of the parents

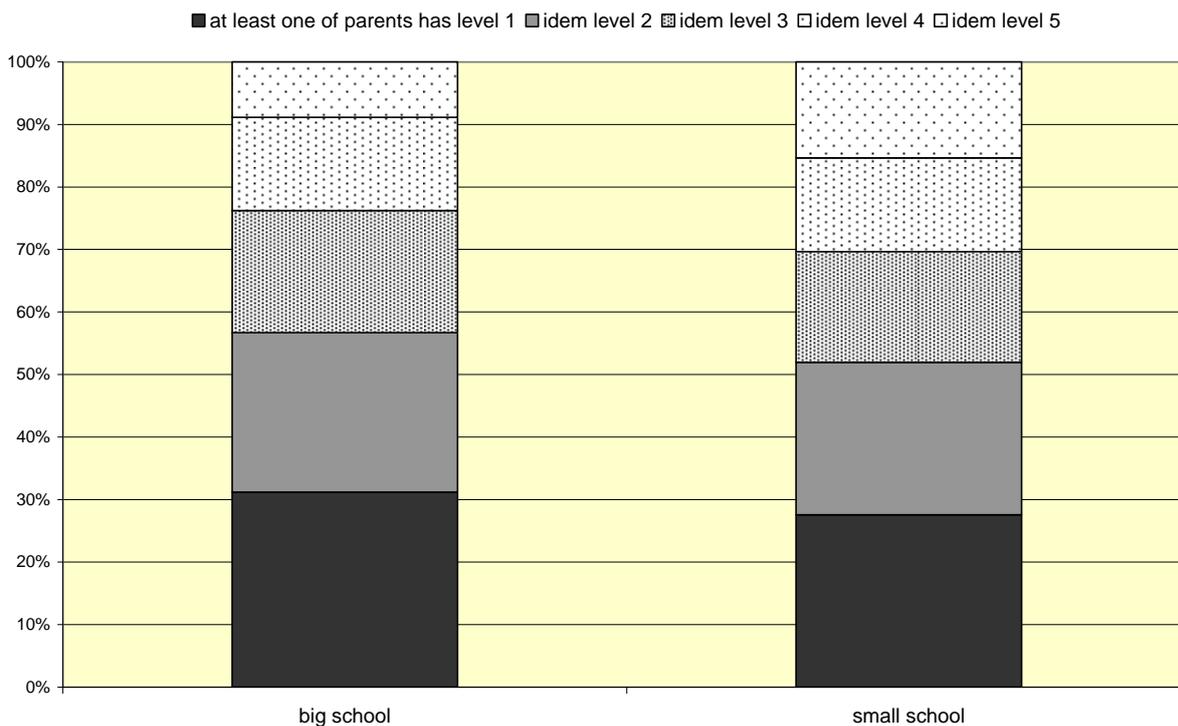
The following table gives details on the social background of the parents as measured by their professional level (see the annexe 4 for more details on the professional level).

Table 23: Professional level of the parents (the figures shown correspond to the highest level of either the (step-)father or the (step-)mother)

professional level	«big» schools	«small» schools	total
1	31%	28%	30%
2	26%	24%	25%
3	20%	18%	19%
4	15%	15%	15%
5	9%	15%	11%

This is also illustrated in the following chart.

Figure 20: Professional level of the parents (the figures shown correspond to the highest level of either the (step-)father or the (step-)mother)



Note that the level 1 is the best represented in the «big» as well as in «small» schools (this level corresponds to level A^(*) for employees of the European Institutions or their equivalents in other public services, and to CEOs, CFOs and the like in private enterprises). If we add to this level 2 (which corresponds to B^(*) for employees of the European Institutions or their equivalents in other public services, and to high ranking staff in private enterprises), we can see that these two levels together represent more than half (30 + 25 = 55%) of the children; on the other hand, only about 1 out of 9 children (11%) come from families where the highest level of the parents is level 5, which corresponds to executive clerks or skilled workers.

Note that the «small» schools could be labelled as being a bit more «democratic» than the «big» schools, since the children of the two lowest levels (4 = associate professionals + 5 = executive clerks or skilled workers) represent about 30% in the former as compared to 24% in the latter. This might at first sight seem a bit surprising, given the fact that, as we have seen in the previous table, the population of the «small» schools is composed for about half of children whose parents have to pay the school fees themselves, so one might expect that, as a consequence, these schools would attract especially children from families whose income (or professional level) is higher than average. Since, however, the amount that parents actually have to pay, depends on their income, it would seem that this mechanism indeed leads to a more «democratic» character of the «small» schools' populations.

It should be noted, however, that the boundaries between the levels of the professions that we proposed in our classification are not very well defined, so that the figures in the previous table have to be handled with caution. A more clear-cut distinction is possible when considering the educational level of the parents, *i.e.* the level of their highest diploma. These results are discussed in the following paragraph.

4.4.4. Social background as measured by the educational level of the parents

The following table gives details on the social background of the parents as measured by their educational level.

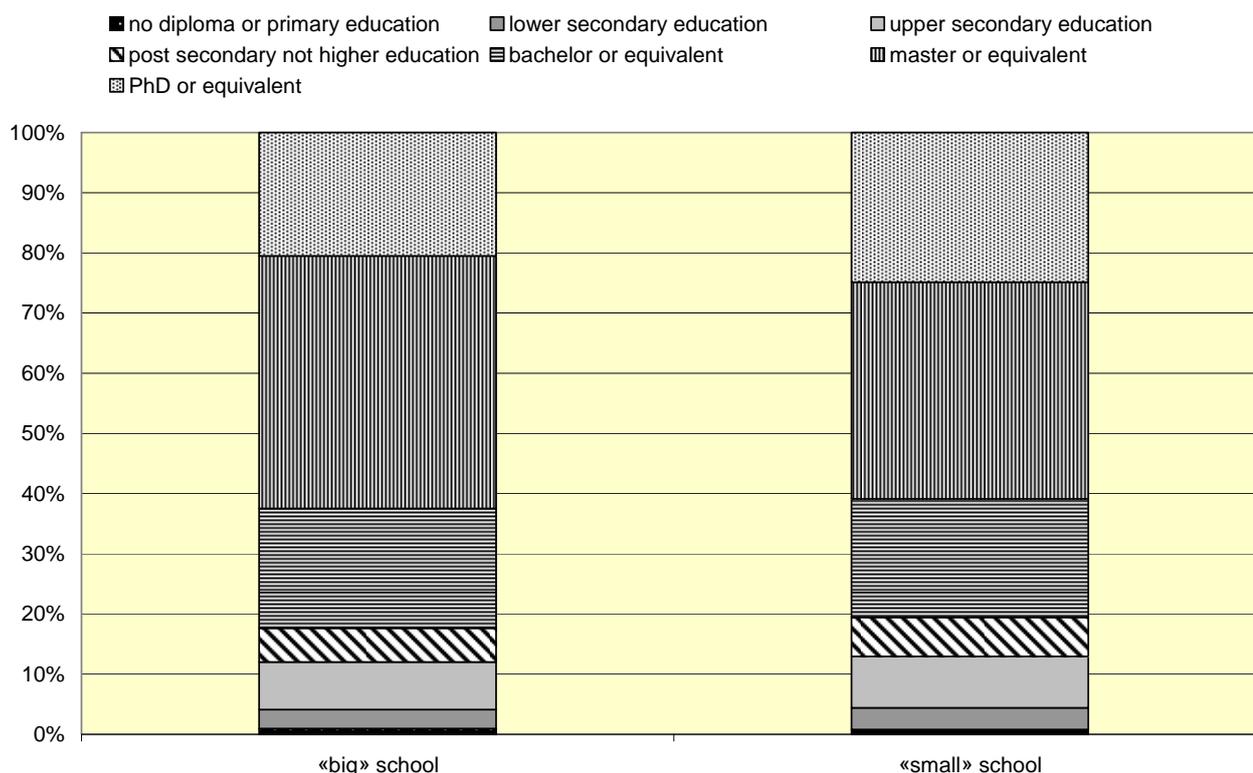
Table 24: Educational level of the parents (the figures shown correspond to the highest level of either the (step-)father or the (step-)mother)

educational level	«big» schools	«small» schools	total
no diploma or primary education	1%	1%	1%
lower secondary education	3%	4%	3%
upper secondary education	8%	9%	8%
post secondary not higher education	6%	6%	6%
bachelor or equivalent	20%	20%	20%
master or equivalent	42%	36%	40%
PhD or equivalent	21%	25%	22%

This is also illustrated in the graph on the next page.

As can be deduced from these figures, $20 + 40 + 22 = 82\%$ of the graduates belong to families where at least one of the parents holds a diploma of tertiary education; the number of PhD holders is about 1 out of every 5 in the «big» schools, and even 1 out of every 4 in the «small» schools. This should not surprise us, since the latter are mostly linked to European scientific institutions or agencies with highly qualified researchers and specialists. But all in all, the differences between the «big» schools and the «small» schools are minor. Moreover, these numbers of holders of diplomas of tertiary education are quite impressive, and seem to suggest that even at the professional level 4, a substantial part of the employees concerned hold such a diploma.

Figure 21: Educational level of the parents (the figures shown correspond to the highest level of either the (step-)father or the (step-)mother)



For the sake of comparison, we can note that about 70% of the respondents are not older than 30, so it is safe to assume that their parents are now in their late forties to the early sixties. In the EU19 population (OECD, 2007), people without any diploma or with a diploma of primary or lower secondary education only, represent about 40% (36% for the age range 45-54 and 46% for the range 55-64), or roughly ten times more than the percentage observed at the European Schools (1 + 3 = 4%). Looking at it from the other end, 82% of the parents had tertiary education, which is about four to five times more than the EU19 level (21% for the age range 45-54 and 17% for the range 55-64). Although this comparison is fairly rough, the differences are so pronounced that one may refer to the European Schools' population as having quite unique characteristics as far as social background (in terms of educational level) is concerned.

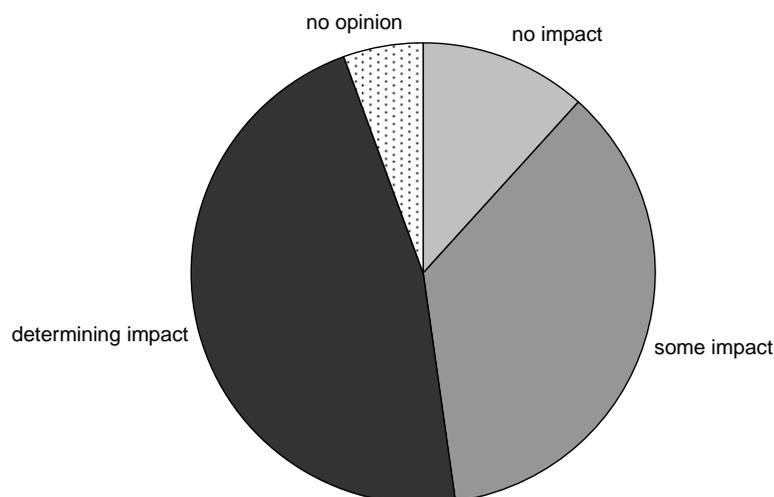
Based on these figures, it seems logic that most of the graduates also start an academic career, as we have seen in paragraph 4.3.2. This is nevertheless only slightly corroborated by the answers to the question in the survey in which the graduates were asked to define the impact their social background probably had on their academic career, and that are summarized in the following table:

Table 25: Impact of social background on academic career

no opinion	6%
no impact	12%
some impact	36%
determining impact	47%

This is also illustrated in the chart on the next page.

Figure 22: Impact of social background on academic career



As can be seen, not even half of the graduates (47%) consider that their social background (which for the large majority means, in practice, having at least one parent with an academic career) without doubt lead them to pursue themselves an academic career. When adding to this the number of graduates who think that this factor had «some impact», we obtain 82%, which is – probably not by coincidence – also the percentage of families with at least one of the parents having a tertiary diploma.

4.4.5. Social background as measured by the reasons why parents send their child(ren) to a European School

A final indicator that might shed some light on the social background of the graduates' families, can be found in the reasons why the parents sent their child(ren) to a European School. Please remember that the answers to the questionnaire were provided by the graduates, and not by their parents, so that some of the reasons why the parents «liked» the European School, may actually be reasons why the child(ren) «liked» it. We think that, nevertheless, the following information will be interesting. It is based on a list of reasons from which the respondents could choose one or more just by crossing them, or by putting numbers in descending order of pertinence (this possibility of answering this question was preferred after the testing of the questionnaire with a compulsory ordering of the reasons, which was found too restrictive; less restrictiveness in the questioning leads of course to less rigidity in the interpretation of the answers). The reasons between which the graduates could choose were, in descending order of relevance (as resulted from the answers !):

- Reason 1: Category I pupil
- Reason 2: Multicultural character
- Reason 3: Education in mother tongue
- Reason 4: Overall quality of education (both language and other courses)
- Reason 5: European Baccalaureate
- Reason 6: No real alternative available

- Reason 7: Continue studies coming from abroad without losing a year
- Reason 8: The cost of the school
- Reason 9: Average social level of the families
- Reason 10: Other

The following table gives the relative weight of the reasons, whereby the total number of times the most frequently given reason was normalized to a weight of 100, and the weights of the other reasons were calculated in proportion to this. Note that in practice, the weight of 100 was equal to a mention by 64% of the respondents that this was indeed a reason.

Table 26: Reasons for parents to send their children to a European School

Score given to reason	1. Category I	2. Multicultural character	3. Mother tongue	4. Overall quality	5. European Baccalaureate	6. No real alternative	7. No loss of school year	8. Cost	9. Average social level	10. Other
Score 1	31	9	16	6	3	3	1	1	0	2
2	7	13	12	7	4	3	1	1	0	0
3	3	10	2	6	6	3	1	1	1	1
4	1	3	1	4	5	2	0	1	1	0
5	0	1	1	2	2	1	0	1	1	0
6	0	0	0	0	0	1	0	0	1	0
7	0	0	0	0	0	0	0	1	1	0
8	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	1	1	0	0	0
10	0	0	0	0	0	0	0	0	0	0
X (= mention without score)	58	49	42	33	29	16	9	8	6	8
total	100	86	76	59	49	29	14	14	12	11
corresponding fraction of respondents	64%	55%	49%	38%	31%	19%	9%	9%	7%	7%

The following examples might help to read this table correctly:

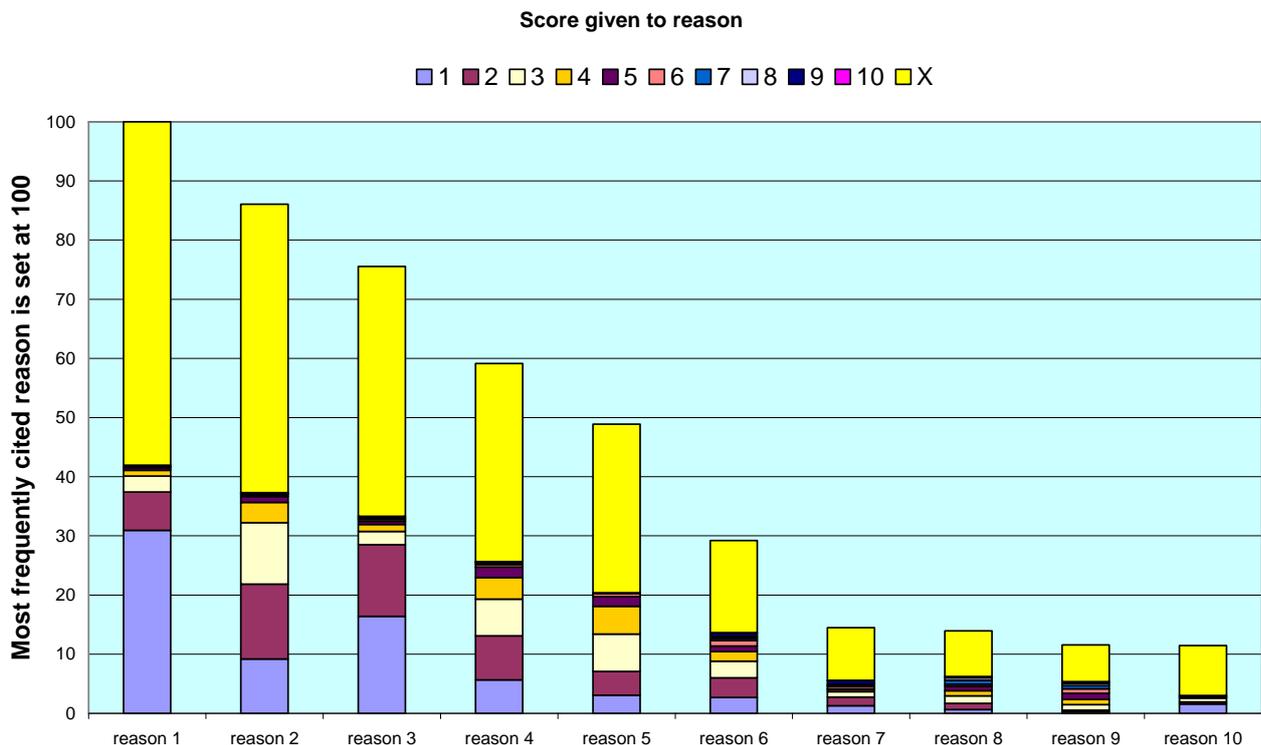
- 64% of the pupils confirmed that the fact that they belong to cat. I was one of the reasons that they were sent to a European School; this percentage is consistent with the one in table 7 (68%), which is an indication of the (good) quality of the answering of this question; this frequency was given a weight 100
- the weight 31 in the cell at the crossing between score 1 and reason 1 means that of every 100 pupils saying that reason 1 was influencing their parents' decision, 31

considered it to be the most important reason; a weight of 58 in the cell at the crossing between X and reason 1 means that the most important, of every 100 pupils saying that reason 1 was influencing their parents’ decision, 58 considered it to indeed to be a reason, but without ranking it in comparison to other reasons

- the weight 12 at the crossing between score 2 and reason 3 means that for every 100 pupils saying that reason 3 was influencing their parents’ decision, there were 12 pupils saying that the mother tongue education was the second most important reason for parents to send their child(ren) to a European School.

This is also illustrated in the following chart.

Figure 23: Reasons for parents to send their children to a European School



4.5. Results concerning the professional career of the graduates

4.5.1. Introduction

The strengths of the European Schools’ system (*see chapter 3 and appendix 3*) are especially situated in the education of (foreign) languages, which could predestine the graduates, more than any other type of education, to an international professional career, or at least, to a great geographical mobility during their professional life, or still phrased otherwise, to career opportunities where the knowledge of several foreign languages would be an essential asset.

It has also been said and verified that the European Schools’ system stresses the importance of science and mathematics; hence, it was also deemed interesting to see to what extent graduates opt for a career in more technical professional environments.

Several questions in this respect have been included in the survey, and the answers will be analysed in the following paragraphs. Note that 54% of the respondents had already started a

professional career (compared to the 46% who are still following tertiary education, are taking a «pre-professional sabbatical», or are looking for a job).

4.5.2. National versus international character of the working environment

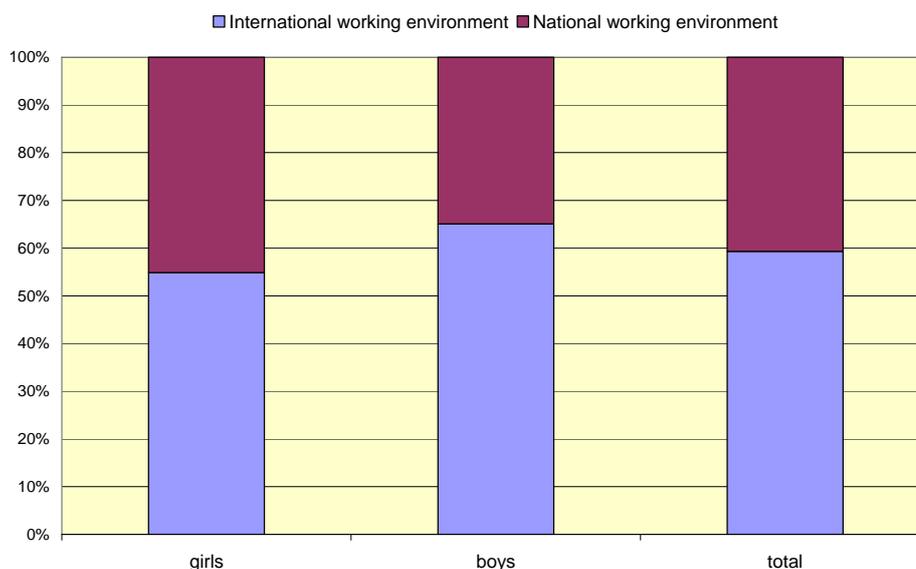
Graduates were asked to specify not only the socio-economic sector they started working in (*see next paragraph*), but also if their employer or working environment has/had essentially a national or an international character. The answers showed that 59 % of the graduates who have already started a professional career, qualify their working environment as «international», whereas 41% qualify it as being «national». It is interesting to note that there is a clear gender bias in these percentages, as follows from the figures in the following table:

Table 27: National or international working environment at the start of the professional career

	international	national
men	65%	35%
women	55%	45%
total	59%	41%

This is also illustrated on the following chart.

Figure 24: National or international working environment at the start of the professional career



The same question was asked concerning the current professional environment, as compared to the one at the starting point. These results indicated an even more international character of the working environment, since 66% of the respondents whose professional career has taken off, now qualify it as «international», against only 34% as «national». This would indicate that – in net terms – about one out of 10 starters shift after some time from a national to an international working environment. We let these figures speak for themselves.

4.5.3. Socio-economic employment sectors

The following table indicates the sector in which the graduates started their professional career, where 18 economic sectors (including «other») have been detailed, and a further distinction has been made between on the one hand, boys and girls, and on the other hand, the national or international character of the working environment.

We have also regrouped the 17 sectors (excluding «other») into 4 categories: public sector, industrial sector, services sector and non-profit sector or equivalent.

Table 28: Socio-economic employment sectors (at the start of the professional career)

socio-economic sector	girls			boys			grand total
	nat.	int.	total	nat.	int.	total	
European institution	0%	7%	7%	0%	6%	6%	7%
international institution	0%	2%	2%	0%	2%	2%	2%
national or local public service	5%	0%	5%	2%	1%	3%	4%
total public services	5%	9%	14%	2%	9%	11%	13%
construction	1%	0%	1%	1%	0%	1%	1%
engineering	1%	2%	3%	3%	7%	10%	6%
manufacturing	0%	1%	1%	1%	2%	3%	2%
total industrial sectors	2%	3%	5%	5%	10%	14%	9%
commerce	3%	5%	8%	2%	7%	10%	9%
consultancy	1%	5%	6%	3%	8%	11%	8%
finance	1%	6%	8%	2%	13%	15%	11%
law	2%	3%	5%	1%	3%	5%	5%
transport	0%	1%	2%	0%	1%	1%	2%
total service sectors	8%	21%	29%	9%	32%	41%	34%
arts, culture and sports	2%	1%	3%	1%	1%	2%	3%
health	11%	2%	13%	5%	1%	6%	10%
higher education	2%	2%	4%	3%	2%	5%	4%
media	3%	4%	7%	3%	2%	4%	6%
professional, social or political org.	1%	2%	3%	1%	1%	1%	2%
teaching	5%	1%	6%	2%	0%	2%	5%
total non-profit or equivalent	23%	13%	35%	14%	7%	21%	29%
other	8%	8%	16%	5%	7%	12%	14%
total	45%	55%	100%	35%	65%	100%	100%

The following examples might help to read these figures correctly:

- of every 100 male graduates who participated in the survey, 10 started working for an engineering company, both national and international working environments taken together
- of every 100 female graduates who answered the questionnaire, 11 have started a career in the health sector at national level, whereas 7 started a career at a European Institution (obviously an international working environment), whereas 5 started working at a law firm, both national and international working environments taken together

- of every 100 graduates (who participated in the survey), boys and girls together, 11 started in the financial sector.

These results for boys and girls together are also illustrated in the chart on the next page.

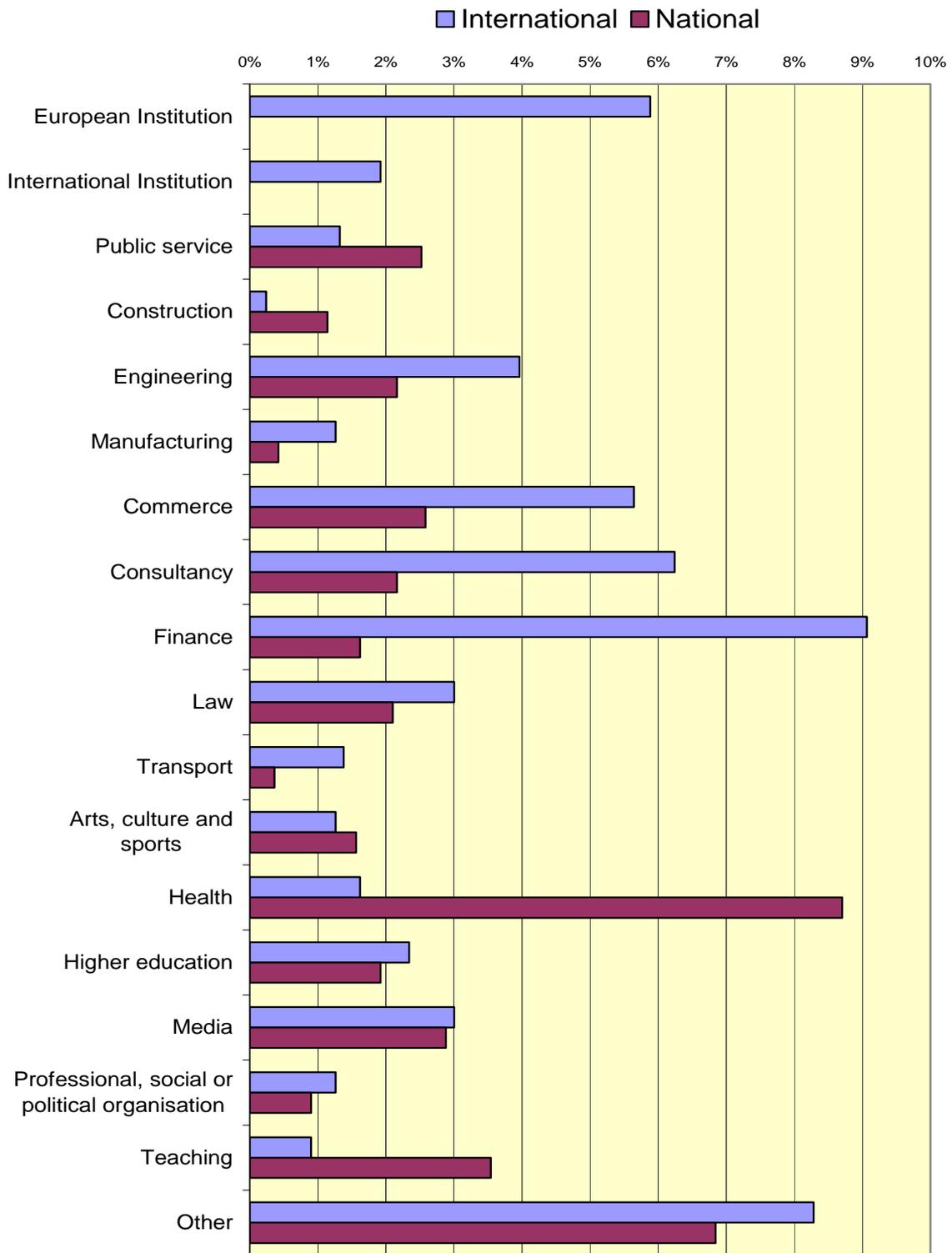
We have also checked if there is a disproportionate fraction of graduates opting for a career at the European Institutions. This showed that only 7% of the graduates have started their career by working at one of the European Institutions. Given the fact that 68% of the pupils are so-called category I, it would seem that only a minority (in fact: less than 1 out of 10) is trying to step in the footprints of (one of their) parents, but still the percentage remains higher than average as compared to the EU 27 students' population.

We do realise that these groupings into the four categories are somewhat crude, but they nevertheless allow us to draw the following conclusions:

- the service sector attracts the most graduates: indeed, nearly one out of 3 graduates (34%) starts his or her career in this sector, but with a rather significant difference between boys (41%) and girls (29%)
- on the other extreme, the industrial sector appeals to only about 9% of the graduates, with again a rather significant difference between boys (14%) and girls (5%)
- the public sector attracts 13% of the graduates, and the ones concerned definitely prefer an international to a national working environment (in the proportion of about 2 to 1)
- the non profit sector and its equivalent attracts about 29% of the graduates, again with a rather significant difference between boys (21 %) and girls (35 %).

All in all, and although there are notable differences between boys and girls, one can conclude that the European Schools' education opens the door to a great many job opportunities.

Figure 25: Socio-economic employment sectors (at the start of the professional career)



4.5.4. Use of foreign languages

The survey contained questions concerning the use of languages in the working environment at the starting point and in their current professional situation. A distinction was made on the basis of the L0/L1 language of the graduates, which could be one of the so-called vehicular languages (English, French or German) or another language. This yielded the following results:

Table 29: Use of languages at the start of the professional career

starting position	English	French	German	other ¹⁹
mainly L1 (language of the section)	51%	41%	32%	38%
mainly (an)other language(s) than L1	18%	27%	36%	30%
L1 + (an)other language(s) on a more or less equal basis	31%	32%	31%	32%

Figure 26: Use of languages at the start of the professional career

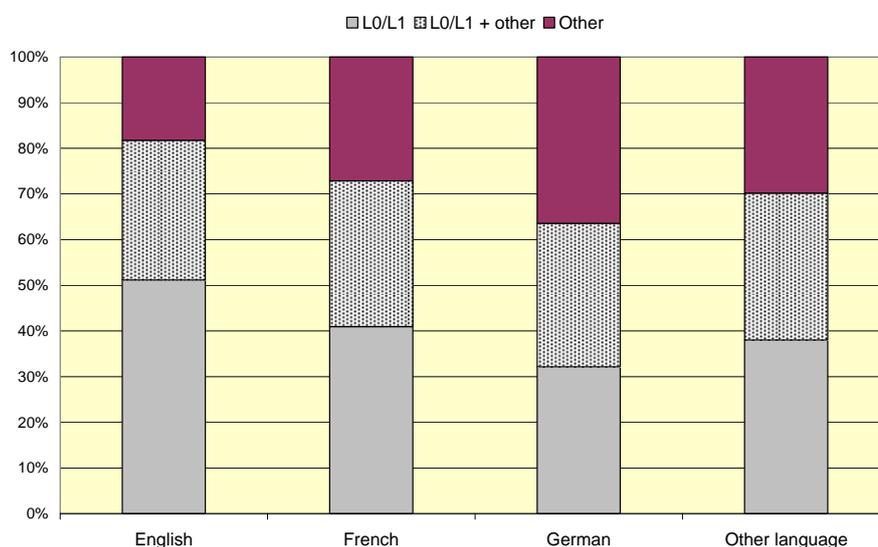


Table 30: Use of languages at the current professional position

current position	English	French	German	other
mainly L1 (language of the section)	52%	36%	27%	33%
mainly (an)other language(s) than L1	17%	27%	37%	30%
L1 + (an)other language(s) on a more or less equal basis	31%	37%	36%	37%

These results show that, except for the graduates from the English sections (English = L1), all the other graduates show a shift towards a working environment where their L1 becomes less important and another language is used on a more or less equivalent basis as their L1 (see for example graduates from the French sections, of which 41% declare French to be the most commonly used language at the start of their career, but whereby this percentage drops to only 36% once their career has taken off).

¹⁹ We refer to appendix 5 for a more detailed analysis per language for the group «Other».

These figures are somewhat surprising as far as German is concerned: only 32% of graduates from the German section declare German to be the most commonly used languages at the start of their professional career, which is not only significantly lower than the percentages for the other two vehicular languages English and French, but which is even lower than the average of the «less important» other languages; and this observation is more than confirmed once the career has been launched, where only 27% of the German speaking graduates qualify their mother tongue as staying the most commonly used language, as compared to 33% for the «less important» other languages. We have no real explanation for this phenomenon.

4.5.5. Impact of studying at a European School on the professional career

The survey contained a question in which the graduates were asked to assess the impact the fact that they have studied at a European School may have had on their professional career. The results are summarized in the following table, where a distinction has been made between boys and girls:

Table 31: Impact of studying at European School on professional career

	girls	boys	total
no opinion	6%	8%	7%
no impact	9%	9%	9%
some impact	34%	36%	35%
determining impact	51%	48%	49%

These results corroborate the ones in paragraph 4.5.2 concerning the international character of the professional environment, which is well above the average. The graduates seem to attribute this, at least partially, to the fact that they have studied at a European School.

4.6. «Drop out»-issue

4.6.1. Introduction

The terms of the call for tender specified that special attention should be paid to the «drop out»-issue, *i.e.* the fact that children leave the European Schools' system without having obtained their European Baccalaureate, and for reasons other than the fact that their families move to another country or city, making their attendance to the School impossible for practical reasons.

As we have already said, it was quite difficult to obtain contact data for graduates, since the schools do not systematically set up data bases with such data concerning their graduates. This caused *a fortiori* problems with the contact data for children who had left the system. Hence it was decided that instead of trying to contact such children directly, we would gather information on the «drop out»-issue by the following indirect two step procedure:

- First, we have collected information on this issue by inserting a series of questions in the questionnaire for the graduates, in which they were asked to comment on the possible reasons why fellow pupils they have known, dropped out of the system. This resulted in a list of reasons in descending order of relevance, at least taken from the viewpoint of these fellow pupils (and not the pupils having dropped out themselves, for the reasons explained)

- Secondly, this list was submitted to the representative of the school heads for additional comments (note that the school heads had already been involved in the preparation of the survey, so that in a general way, and hence also as far as the «drop out»-issue was concerned, the options proposed in the multiple choice questions had already been validated regarding their probable relevance).

The following paragraph gives the results of the answers in the questionnaire, where graduates could choose one or more reasons between 13 predefined ones, or specify (an)other reason(s) themselves, according to which fellow pupils dropped out of the system, for reasons other than their families moving away.

4.6.2. Analysis of the «drop out»-reasons

Since our primary source for collecting information on the «drop out»-issue were the graduates we were able to contact and who would have to comment on their fellow pupils, it was verified that enough of them actually have known such pupils well enough to be able to comment on the probable reasons why he or she left the school. This was indeed the case, as is shown in the following table:

Table 32: Number of graduates knowing a «drop out»-case well enough to comment on the reason(s) for his or her «drop out»

Yes, I knew a «drop out»-case	71%
No, I did not know such a case	13%
I don't remember	16%

The following table gives the relative relevance of the reasons, whereby the total number of times the most frequently given reason was normalized to a weight of 100, and the weights of the other reasons were calculated in proportion to this. Note that in practice, the weight of 100 was equal to a mention by 30% of the respondents that this was indeed a reason.

The reasons between which the graduates could choose were, in descending order of relevance (as resulted from the answers!):

- Reason 1: (s)he went to a boarding school in his or her home country
- Reason 2: (s)he had to leave for disciplinary reasons
- Reason 3: (s)he had difficulties with foreign languages
- Reason 4: (s)he had difficulties with science courses
- Reason 5: (s)he had difficulties with mathematics
- Reason 6: (s)he had difficulties with courses in L2 (history, geography)
- Reason 7: his or her special educational needs were not met
- Reason 8: (s)he changed to vocational education
- Reason 9: (s)he found that the national schools' system offered more interesting options
- Reason 10: (s)he had not a good relationship with other pupils
- Reason 11: his or her parents could no longer afford the costs

- Reason 12: (s)he changed to artistic education
- Reason 13: (s)he did not know well enough the language of his or her section (L1)
- Reason 14: other.

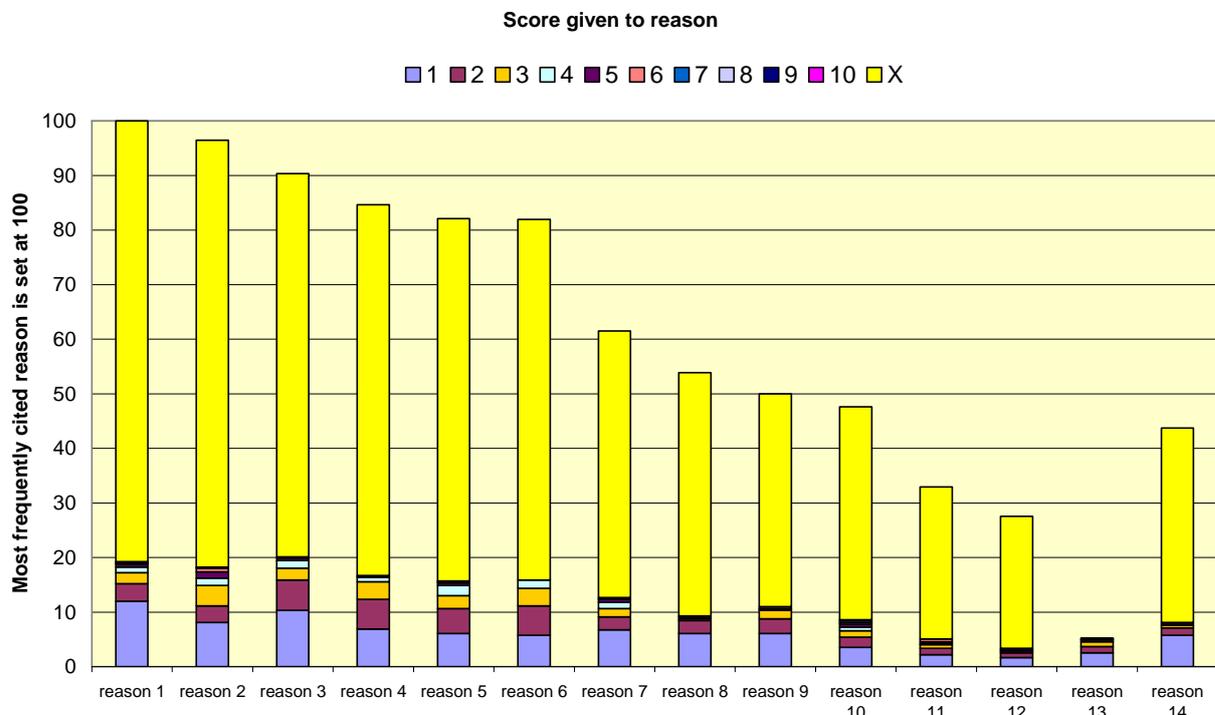
If they wanted, the respondents could give more details concerning this last category («other») in their own words.

Table 33: Analysis of the «drop out»-reasons

Score given to reason	boarding school	discipline	foreign languages	science	math.	courses in L2	SEN	vocational education	national system	bad relationship	cost	artistic education	L1
1	12	8	10	7	6	6	7	6	6	4	2	2	3
2	3	3	6	5	5	5	2	2	3	2	1	1	1
3	2	4	2	3	2	3	2	0	2	1	1	0	1
4-10	2	3	2	1	3	2	2	1	1	2	1	1	1
X	81	78	70	68	66	66	49	45	39	39	28	24	0
total	100	96	90	85	82	82	61	54	50	48	33	28	5
fraction	30%	29%	28%	26%	25%	25%	19%	16%	15%	15%	10%	8%	2%

These results are also illustrated in the following chart.

Figure 27: Analysis of the «drop out»-reasons



Before commenting on these reasons, it should be remembered not only that they were given by fellow students and not by the pupils having dropped out themselves, but that moreover, they apply to situations going back in time to as far as (at least in theory) some 40 years, given the age of the eldest graduates who provided an answer to these questions. In this respect, the reader

should keep in mind that several measures have been taken recently by the European Schools to help pupils with learning difficulties or special educational needs, but these were not yet applicable to situations older respondents may be referring to.

It should also be reminded that the relevance of the reasons is based on the number of times they were cited in the survey, which is not necessarily also a good indicator of the number of times the reasons actually were applicable (to different pupils). Indeed, it has to be expected that «high profile» drop out cases (*e.g.* a pupil who was expelled from school because of drug abuse) would be remembered and thus cited by a large number of respondents, giving the (wrong) impression that such cases would be rather common, whereas they might actually be rare, but, as said, well remembered. On the other hand, drop out cases based on personal reasons that the pupils concerned would not like to be known by their fellow students, might be less common, but given their «low profile», they might not have been remembered and hence cited by the respondents. In other words, the «importance» of the drop out reasons would need further looking into before any conclusions can be drawn from it.

The most cited reason concerns the fact that pupils were withdrawn from the European School to go and finish their secondary education at a boarding school in their land of origin. In practice, school heads consider that this nearly exclusively applies to British nationals, who send their children most often to the boarding school the family head attended himself, given the impact on their social status this may have. As such, it would seem that this reason has little to do with the quality of the education provided by the European Schools as such²⁰ (even though one might ask the question why parents did not opt from the very beginning for a boarding school, and preferred to send their children first to a European School anyhow).

The second most frequently mentioned reason concerns (possibly «high profile») disciplinary problems, which is invoked as the only reason in 6% of the cases, and one of the reasons, in association with others, in 23% of the cases. We have already seen that lack of motivation was also one of the major reasons for pupils to «double» classes. Those problems could be linked to the (too) high level demanded from the pupils by the European Schools' system, but this would need further investigation that fell out of the scope of this study²¹.

The following four reasons (problems with foreign languages, science courses, mathematics, history and geography in L2) touch the very heart of the European Schools' system, since they are the points through which this system distinguishes itself most from the national systems. Obviously, pupils who are weak on the points where the European Schools want them to be strong, do not fit in this system, and have little alternative but to leave it. Note that in 39% of the cases, a problem with language education was chosen as sole reason or in combination with other reasons.

The next reason concerns special educational needs, which, according to the comments provided, are often linked to problems with dyslexia or hyperactivity. These are now formally recognized, which was not (always) the case in the past.

²⁰ It has been rumoured that universities in the UK and Ireland would deliberately underevaluate the European Baccalaureate, and that, as a consequence, parents withdrew their children from a European School to have them spend their final years of secondary in the UK or Ireland. The consultants have understood that this aspect, or more generally speaking, the concept of the European Baccalaureate as such, is the subject of a specific study, ordered by the Office of the Secretary General.

²¹ It would seem that some pupils who feel homesick use this tactic (of undisciplined behaviour) to get expelled from school and return to their homeland.

The above reasons were mentioned by at least about 1 out of every 5 respondents to these questions; the following reasons below were mentioned by less than that, and as a consequence have a lower relevance:

- the fact that some pupils changed to vocational or artistic education (this is a known weakness of the European Schools' system, which does not offer these types of education); the fact that some pupils change to the national system offering more options is of the same nature
- the cost which may become too high for some parents, especially since in the more recent years there have been significant increases in the school fees (obviously this only concerns cat. III families)
- bad relationships with other pupils (so-called bullying) is also a problem that was not formally recognized in the past, but that has been now, special attention being paid to it by the staff of the schools
- the fact that pupils have difficulties with the language of the section they are put in (most probably because there is no section in their mother tongue) is only mentioned by about 2% (1.6% to be more precise) of the respondents to these questions.

Within the category «other reasons», the most cited one was the too high level of the education, forcing people to leave the system, in some cases even after having «doubled» two classes (the maximum number allowed). In some but very few cases, the reason giving is «bullying by (a) teacher(s)».

Finally, it is perhaps interesting to note that the survey only dealt with the phenomenon of the «drop out», but did not deal with the question why a lot of parents do not send their children to a European School to start with. According to statistical data cited by one of the European Schools in Brussels, 48% of the category I parents would prefer not to send their children to a European School there, but opt either for a local school or a boarding school in their homeland. The analysis of the reasons for doing so fell outside the scope of this study.

5. ADDITIONAL INFORMATION

5.1 Evaluation by the graduates of the European Schools' system

In order to obtain a global evaluation by the graduates of the European Schools' system, we asked them if they would recommend this system for children of their friends and relatives. The results are summarised in the following table, where we crossed them with the number of years the graduates had themselves studied at a European School (or several of such schools, if the case occurred).

Table 34: Cross relation between the opinion about the European Schools' system and the number of years spent at a European School

number of years spent at ES	fraction of respondents	positive opinion	neutral opinion	negative opinion	no opinion
2	3%	64%	31%	3%	2%
3	4%	68%	30%	2%	0%
4	4%	67%	31%	2%	1%
5	4%	70%	25%	4%	1%
6	4%	65%	32%	2%	1%
7	6%	79%	19%	2%	1%
8	6%	67%	29%	3%	1%
9	4%	71%	24%	5%	1%
10	5%	72%	23%	3%	2%
11	5%	69%	24%	5%	2%
12 or more	54%	73%	23%	3%	0%
total or average	100%	72%	25%	3%	1%

The average number of graduates who have expressed a positive opinion about the European Schools' system is 72%, with extremes between 64% and 79%, but there seems to be no relation between the number of years spent and the opinion expressed. The number of negative opinions is on average 3%, with the highest value being 5% (actually 4.5%).

We have also verified if there was a relation between the opinion expressed and the size of the school, or between the opinion and the gender of the respondents. The results are summarised in the following table.

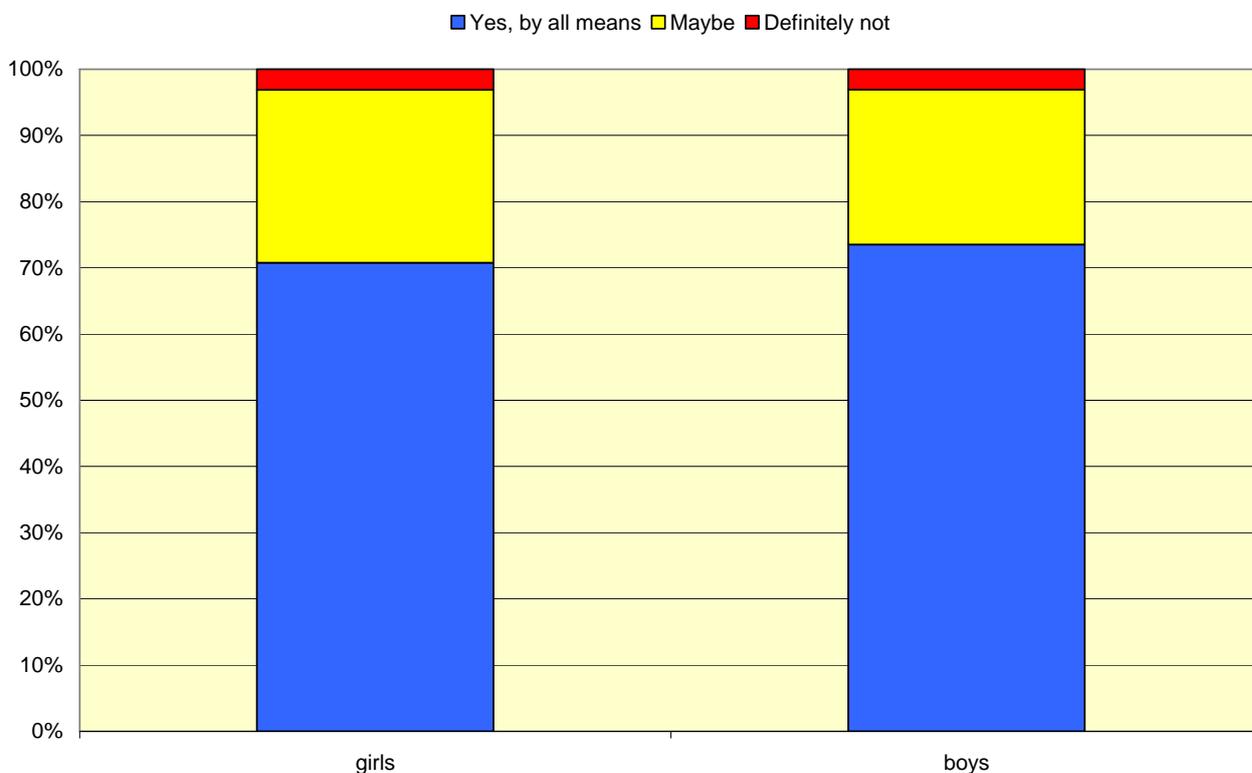
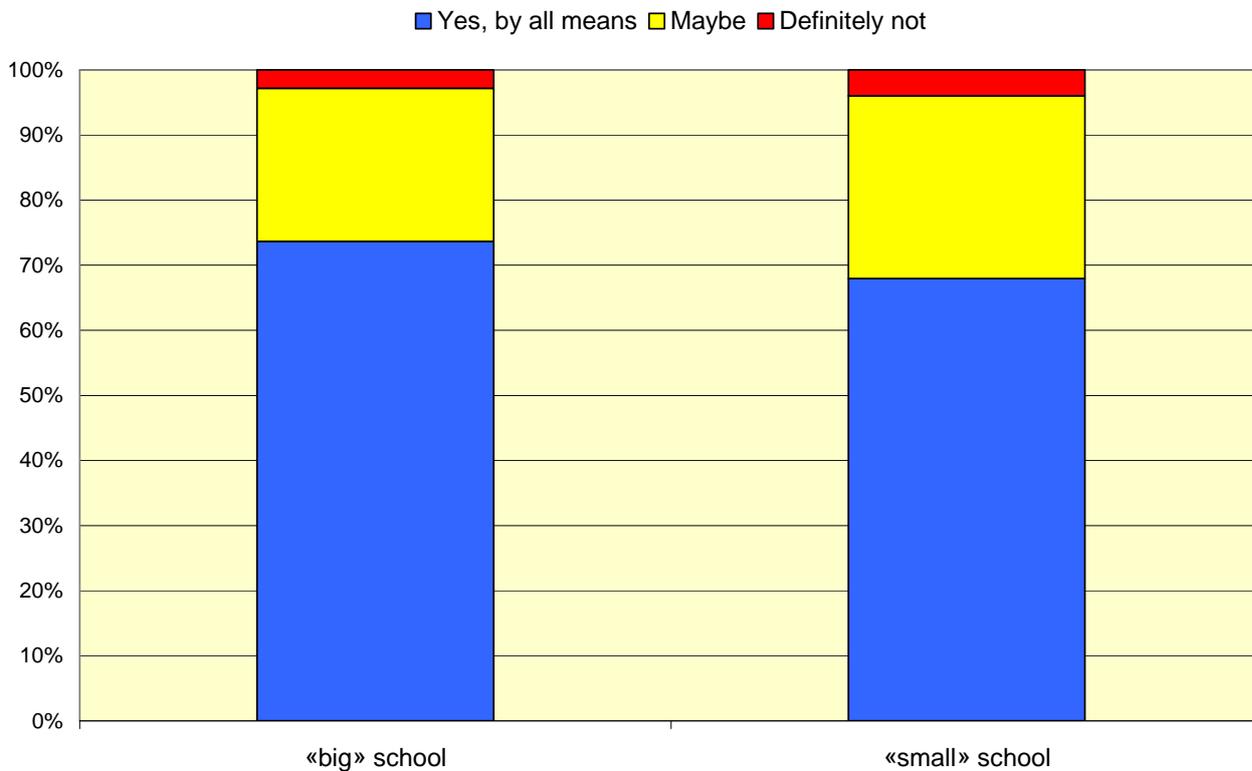
Table 35: Cross relation between the opinion about the European Schools' system and the size of the school and the gender of the graduate

	positive opinion	neutral opinion	negative opinion
big school	74%	24%	3%
small school	68%	28%	4%
total	72%	25%	3%
boys	74%	23%	3%
girls	71%	26%	3%

These results are also represented in the following charts.

Figure 28: Cross relation between the opinion about the European Schools' system and the size of the school and the gender of the graduate

Would you recommend European School ?



One can deduce from these figures that the opinion about the European Schools' system hardly depends upon the size of the school or the gender of the pupils.

5.2 «Networking» between the graduates

As we have said in chapter 2 and 4, we had many problems finding contact data of the graduates, since most schools don't update the files with such data. Hence, a few questions were inserted in the questionnaire concerning networking between graduates for either professional or social reasons; such networking, if important, could benefit from or contribute to the setting up of a database with contact data with some form of official support.

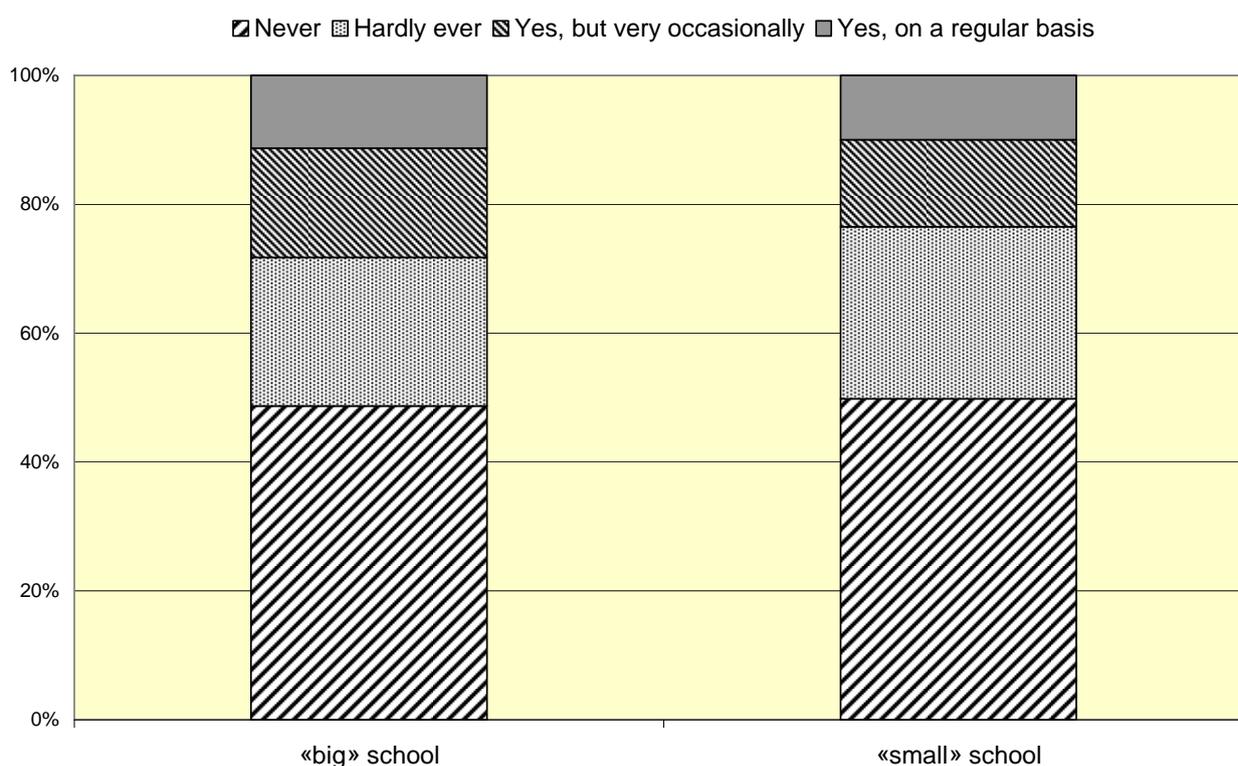
The following tables summarize the answers, whereby a distinction was made per age category:

Table 36: Contacts with fellow pupils for professional reasons

	yes, on a regular basis	yes, but very occasionally	hardly ever	never
up to 20	15%	16%	20%	49%
21-25	11%	14%	23%	52%
26-30	8%	14%	27%	51%
31-35	9%	18%	28%	44%
36-40	10%	20%	24%	46%
41-50	12%	20%	23%	45%
older than 50	15%	15%	27%	44%
average	11%	16%	24%	49%

We have also verified if there were differences between graduates from «big» as compared to «small» schools. These results are represented in the following chart.

Figure 29: Contacts with fellow pupils for professional reasons



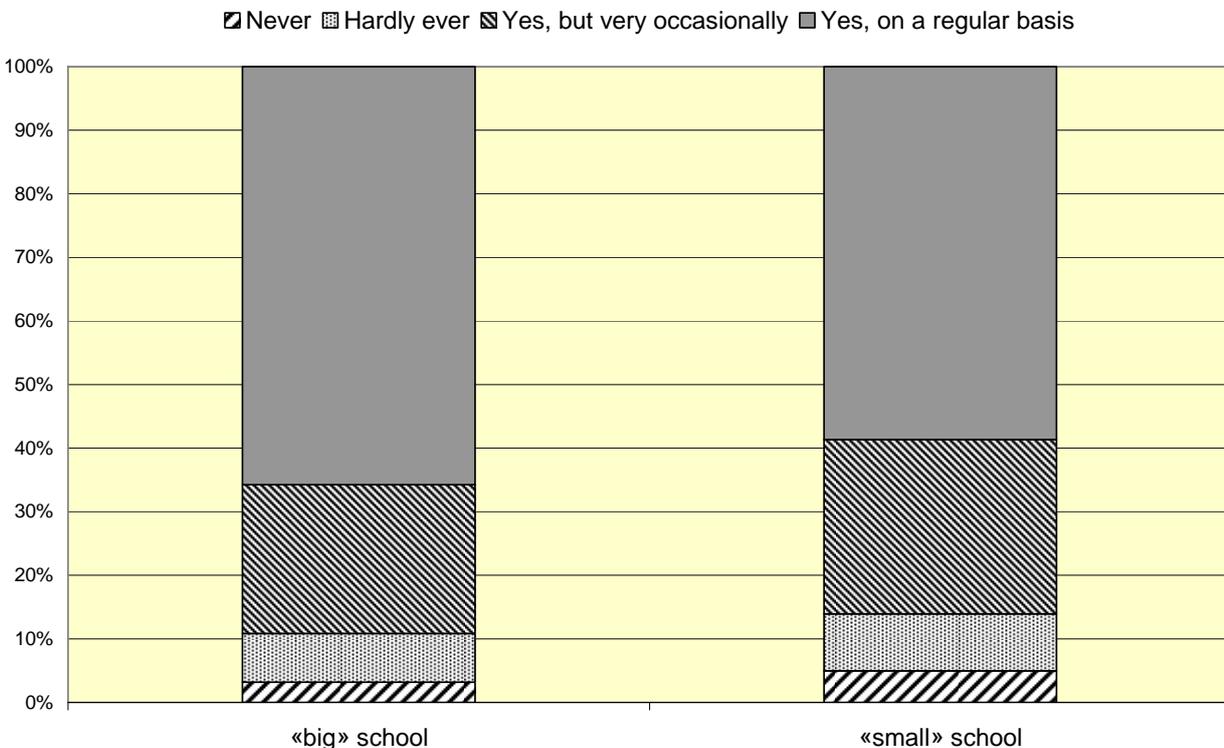
On average, nearly 3 out of 4 graduates (24 + 49 = 73%) have very little or no professional contacts with fellow graduates, and only about one out of 10 has such contacts. There are no really significant differences between the age groups, if it were not that there is a slight increase for graduates having regular professional contacts as age increases at about the midst of a professional career; this slight rise might be due to a form of bias: indeed, the number of elder graduates having answered decreases, and one might think that the people showing a «special interest» in the European School at that elder age are a bit overrepresented in relative terms. Moreover, given the «snowball» or «chain reaction» effect we were counting on in our methodological approach (*see chapter 2*), we were able to contact part of the graduates by the proper fact that they had contacts with at least one fellow graduate.

The results as far as contact for **social** rather than professional reasons are summarised in the following table:

Table 37: Contacts with fellow pupils for social reasons

	yes, on a regular basis	yes, but very occasionally	hardly ever	never
up to 20	79%	17%	3%	1%
21-25	68%	23%	6%	3%
26-30	62%	24%	9%	5%
31-35	60%	26%	9%	5%
36-40	47%	36%	12%	5%
41-50	46%	33%	14%	7%
older than 50	56%	30%	11%	3%
average	64%	25%	8%	4%

Figure 30: Contacts with fellow pupils for social reasons



Here the picture is quite the opposite: nearly nine out of ten (64 + 25 = 88%) graduates still have contact with fellow pupils for social reasons.

6. CONCLUSIONS

1. Despite the fact that the European Schools did not systematically update the contact data of their graduates, the study could be based on about 3,000 answers to an electronic survey, *i.e.* from about one out of every 15 pupils who graduated from a European School since the very beginning. All schools and all ages participated, although the more recent cohorts are undoubtedly overrepresented. But since 56% of the respondents are 26 or older, and hence have finished their academic career and started a professional one, it is reasonable to state that the results of the survey should be statistically significant.

It is interesting to observe that slightly more than half (54%) of the respondents have followed their whole primary and secondary education at a European School, and that 4 out of every 5 respondents did so for their secondary education. This percentage might decrease in the future, given the fact that the European Institutions employ more and more people on a contractual basis instead of offering them a lifetime job.

2. The ES' curriculum analysis has shown that the pupils are provided with a high level, very demanding program, which makes a large place for very important knowledge sometimes too neglected in other education systems: a large range of foreign languages, of course, including content and language integrated learning, but also a rich offer in science courses, attention paid to the other cultures and values, tolerance, and integration. In addition, the pupils who meet difficulties or who have special needs receive some tailored help, be it inside of the classroom or not. Pupils are prepared to study in the ES from the nursery school, and different organisational measures contribute to increase the contacts between them, whichever their linguistic and cultural background. From another point of view, many efforts have been made to harmonise the curriculum: the same programs are in force in the different linguistic sections of all the European Schools.

However, the system suffers from a few weaknesses too. The pupils who are more interested in techniques or in artistic topics, or who wish to work right after graduating instead of pursuing tertiary studies, and also those who cannot adapt themselves to the demands of the system, don't have many other options than to leave it, since up to the 7th grade all students have to follow a rather academic curriculum.

Some of the syllabuses are rather old and could be enriched in the light of some recent progress in the education world. Especially the Common European Framework of Reference for Languages (Council of Europe, 2000), which is used on an increasingly large scale in the national education systems, should lead to the development of the description of the competencies at the different levels of the various language courses.

3. About 94% of the graduates (or, more correctly, of the respondents to the survey) have started an academic career. About 8 out of every 9 who did so have already obtained, or probably will obtain, when they finish studying, at least a bachelorship or its equivalent.
4. Quite noteworthy is the geographic mobility and the linguistic flexibility shown by the graduates, as may appear from the following figures:
 - first of all, it should be noted that a significant part of the graduates go and study at more than one college or university: out of every 100 who start tertiary education, 38 go to a second college or university and 15 even to a third one; the reason for doing so, is only partially linked to the fact that they fail to obtain a diploma: indeed, only 1 out

of 3 students who changes from a first college or university to a second one does not yet have a tertiary diploma yet at the moment he or she changes

- out of every 100 graduates who go to college or university, 30 do so in a country that is neither their country of origin nor the country where they went to a European School; this number grows to 43 in the case of a second college or university, and to 46 in the case of a third one
 - these figures are confirmed when looking at the (main) language used at the college or university attended: for every 100 graduates who follow tertiary education, 29 do so in a language that is not their mother tongue in the case of the first college or university; these figures grow to 39 and 46 for the second and the third one.
5. The academic fields chosen by the graduates are quite diverse, but with a significant upward bias toward sciences (biology, chemistry and physics): 20 % of the graduates from the European Schools choose these fields, as compared to 11% for their fellow students in the European Union (and the difference is even more marked when looking only at girls). It is reasonable to state that there is definitely a relation between this high percentage and the high importance attached to science courses in the curriculum of the European Schools' system.
 6. The socio-economic sectors in which the graduates start their professional career can be characterised as follows: 13% in the public services' sector, 9% in the industrial sector, 34% in the sector of services, 29% in the non-profit sector and 14% in other sectors. It is noteworthy to see that 7% of the graduates start working for a European Institution; while this percentage is higher than the average of the student population in the EU, it could still be considered to be rather moderate, taking into account that 68% of the families of the graduates belong to category I (*i.e.* with at least one of the parents working for a European Institution).
 7. The geographic mobility and the linguistic flexibility observed during the academic career are confirmed during the professional career: 65% of the male and 55% of the female graduates characterise their working environment as being international, and in only about $\frac{1}{4}$ (for German) to $\frac{1}{2}$ (for English) of the cases is the mother tongue the most important one used at the working place. These figures become even a bit more pronounced in the further stages of the career, and drop on average by an additional 5% in favour of English, that becomes more important still.
 8. The social background of the graduates can be characterised as being quite unique, since 82% belong to families where at least one of the parents holds a bachelorship (or higher); this percentage is about four or five times the European average. This above average social background is confirmed by the analysis of the parents' professional situation, which – although comparisons are hard to make – showed that 55% of the pupils have at least one of their parents working at a level equal or comparable to the levels A^(*) and B^(*) of the European Institutions.
 9. The analysis of the «drop out» issue has yielded the following results:
 - the most frequently cited reason (leaving for a boarding school in country of origin) nearly exclusively applies to British nationals, and it would seem it has little to do with the quality as such of the European Schools' system

- the second most frequently cited reason is lack of discipline, but this might be biased by the fact that respondents better remembered «high profile» drop out cases on these grounds (*e.g.* drug abuse), even if these are, in absolute numbers, rather rare
- next in line are mentioned the weakness of the pupil in sciences and/or in languages, which are aspects whereby the European Schools' system distinguishes itself most from the different national systems; obviously, pupils who are weak on the points where the European Schools' system wants them to be strong, have no alternative but to leave the system (by the way: the lack of discipline might find, in some cases, its basis in the fact that a pupil feels he or she is not strong enough anyhow, but this would need a more detailed analysis).

Reasons that are much less important are: the cost of the system for the parents, bullying (by fellow pupils or by teachers) or the fact that a section in the mother tongue is not available. Note that in no single case was a too low level of the education, provided by the European Schools' system, mentioned as a reason.

10. The analysis of the drop out phenomenon has been complemented with an analysis of the «doubling» of classes, which concerns about 1 out of every 7 girls and nearly 1 out of every 4 boys at a European School. It would seem that these high percentages are due to the high level of the courses, and to the fact that weaker pupils have no real alternative within the European Schools' system than repeating class (the only solution, which might be only partial, is to change the options choice, if indeed these were the cause of a pupil having overall low scores).
11. Overall, the quality of the education received at a European School is highly appreciated by the graduates. On average, only 3% of them would not send their own children to a European School or not recommend it to others, and only between 15 and 20% (depending on their mother tongue) felt less well prepared to tertiary education than their fellow students at college or university. Note that these appreciations hardly show any difference between girls and boys or between pupils having attended a «big» or a «small» school.

7. CLOSING REMARKS

The consultants consider that the findings described in the previous chapters provide answers to the questions that were asked, or in other words, the subjects that had to be studied according to the specifications in the call for tender for this study. It is, of course, not uncommon that answers to specific questions raise, in their turn, new questions that can either be answered on the basis of the information already collected, or that would need additional study, or that can give rise to some form of intellectual reasonable conjecture.

Given the positive nature of the conclusion regarding the quality of the European Schools' programs and the opportunities it is proven to offer to its graduates in terms of academic and professional careers, two important questions raise: first, which exactly are the aspects or concepts that are specific to the European Schools' system and can be qualified as strengths thereof, and secondly, is it – from a pedagogical or organisational viewpoint²² – recommendable to «export» them into the national education systems. The consultants are aware of the discussions that are taking place in this context, and think that the following elements could be taken into account in the decision taking processes in which the stakeholders are presently engaged:

- 1) Obviously the European Baccalaureate opens the doors for the graduates to colleges and universities in a EU country of their choice, and as is proven by the figures, 94% of the graduates actually use their Baccalaureate to start tertiary education, whereby the majority also uses the «international» dimension of the Baccalaureate, since 62% of the graduates attend college or university in a country that is not their country of origin.

The first percentage (94%) must not be attributed solely to the merits of the European Baccalaureate: as appeared from the survey, 82% of the graduates have a family background where at least one of the two parents holds a tertiary diploma, and this is, probably not by coincidence, also the percentage of graduates who were of the opinion that their social background had «some impact» to a «determining impact» on their academic career.

The second percentage (62%) is of course dependent on the existence of the European Baccalaureate, but this document as such only facilitates the access to college or university in any country of the EU, but as such, does not guarantee that the holders will be successful there, since this is dependent much more on the thorough quality of the provided education and on the knowledge of the language in which the tertiary education will be provided there, than on the European Baccalaureate as such. As a consequence, «exporting» the concept of the European Baccalaureate into the national education systems in the EU, without at the same time making sure that the level of the foreign language teaching is sufficiently high, might not lead to the desired effects.

- 2) As appears from 1), the importance of the high quality of the foreign language education cannot be stressed enough. It has already been repeated in many reports that one of the reasons why the European Schools score so high in this respect, is – besides the high number of teaching periods in the European Schools' program devoted to foreign languages and the fact that the teaching of a second language starts already at an early age – that the system resorts to native speaking teachers, not just for the language courses *stricto sensu*, but also

²² Note that some if not all of the specific elements that contribute to the strength of the European Schools' system may have a substantial cost because of the extra resources they require. Since financial aspects have not been analysed in this survey, the consultants did not take financial elements into consideration when formulating their reflections.

when foreign languages are used in the context of content and language integrated learning (e.g. for history of geography). Here again, the question should be asked if «exporting» the concepts of native speaking teachers and/or of content and language integrated learning (CLIL) as such into the national education systems in the EU would lead to the same results. As a matter of fact, it should not be forgotten that the fact that the pupils of a European School are so to say obliged to actually use the foreign language(s) they learn in their everyday life and for communication with fellow pupils, contributes in a significant way to the knowledge and use thereof («immediate pertinence» according to Beatens Beardsmore). This multilingual and multicultural environment, up to the end of secondary, is still one of the specificities of the European Schools, which might be difficult to reproduce at the level of the national education systems, which – confronted with the reality that more and more children from other cultures than the one of the country enrol in their schools – seem to focus mainly on the quick progress of the children in the school language, thus not valuing the opportunities this linguistic diversity might offer²³. Obviously the recommendation of changes into the national education systems aiming at an awakening to foreign languages at an early age, would need much more further analysis than can be expected from the survey made here by the consultants.

- 3) One of the objectives of the European Schools' system is not just to prepare the pupils to a successful academic (and professional) career, but also to make good European citizens of them, showing *i.a.* openness and respect towards other cultures. The concept of «European Hours» (at primary level) has been implemented to foster this. Here too, the question can be asked if this concept could be «exported» to the national education systems. However, for such a type of courses to be really successful, the school must have a multicultural character that children can experience every day, in order to render the concepts of openness and respect practical and not theoretical. This being said, it seems nevertheless useful to provide teachers in national education systems which are less multicultural than the European Schools' system with didactical means helping them to organise similar kinds of activities as foreseen during the «European Hours».
- 4) Finally, the study has shown that there is statistical evidence of a relationship between the importance the European Schools' system attaches to the teaching of sciences (a solid basis for all, possibly followed later by a specialisation for the most interested students), and the choice made by its graduates to follow tertiary education in these fields. Insofar as this should be seen as beneficial for the future of our society, this aspect could enlighten the reflexion of the stakeholders of national education systems about the composition of their curriculum.

²³ According to a recent communication from the European Commission, «*There are also untapped linguistic resources in our society: different mother tongues and other languages spoken at home and in local and neighbouring environments should be valued more*» (European Commission, 2008, p. 6).

ANNEXES

Annex 1: Survey form used to collect the data

The European Parliament wants to make a study of the academic and professional careers of the graduates of the European Schools, as well as of the social background of the pupils and of the "drop out" phenomenon (i.e. children leaving the European Schools' system without obtaining their European Baccalaureat). The Secretary General and the management of the schools are supporting this initiative.

Bureau Van Dijk Management Consultants is carrying out this survey on behalf of the European Parliament (DG Internal Policies, Policy Department B: Structural and Cohesion Policies) to improve knowledge of the careers of the pupils of the European Schools.

Thank you very much for taking time to respond. Your participation matters in making this survey representative. Please note that you can at any moment interrupt answering the questions (your answers will be saved) and come back to the questionnaire later. We do realise that there are a lot of questions.

Van Dijk will not transfer any personal information to any other third party other than the European Parliament. Van Dijk may in some cases contact respondents for further feedback, for example to better understand unclear answers.

You have a right of access to your data and a right to correct any errors, as well as a right to have recourse to the European Data Protection Supervisor.

Data related to your name and contact details, as well as individual questionnaires, will be destroyed immediately before the publication of the study. The published study will present only statistical data, and no data related to identifiable individuals.

Please send your answers **before July 31st, 2008.**

Contact point : jm@bvdmc.com

Identification

1. Please fill in your first and family name

First name (answer is optional)

Family name (answer is optional)

2. Please specify your sex

Male

Female

3. Please specify your age

18

21-22

31-35

51-60

19

23-25

36-40

61-65

20

26-30

41-50

older than 65

4. Country of nationality (in case you have a double nationality, check both countries)

Austria

Finland

Latvia

Romania

Belgium

France

Lithuania

Slovakia

Bulgaria

Germany

Luxembourg

Slovenia

Cyprus

Greece

Malta

Spain

Czech Republik

Hungary

(The) Netherlands

Sweden

Denmark

Ireland

Poland

United Kingdom

Estonia

Italy

Portugal

Other

5. Please specify your answer in case you chose "other" in the previous question.

6. Please indicate the country or countries where you have lived

<input type="checkbox"/> Austria	<input type="checkbox"/> Germany	<input type="checkbox"/> (The) Netherlands	<input type="checkbox"/> Other European country
<input type="checkbox"/> Belgium	<input type="checkbox"/> Greece	<input type="checkbox"/> Poland	<input type="checkbox"/> North America
<input type="checkbox"/> Bulgaria	<input type="checkbox"/> Hungary	<input type="checkbox"/> Portugal	<input type="checkbox"/> Latin America
<input type="checkbox"/> Cyprus	<input type="checkbox"/> Ireland	<input type="checkbox"/> Romania	<input type="checkbox"/> Middle East
<input type="checkbox"/> Czech Republik	<input type="checkbox"/> Italy	<input type="checkbox"/> Slovakia	<input type="checkbox"/> Far East
<input type="checkbox"/> Denmark	<input type="checkbox"/> Latvia	<input type="checkbox"/> Slovenia	<input type="checkbox"/> Africa
<input type="checkbox"/> Estonia	<input type="checkbox"/> Lettonia	<input type="checkbox"/> Spain	<input type="checkbox"/> Australia/New Zealand
<input type="checkbox"/> Finland	<input type="checkbox"/> Luxembourg	<input type="checkbox"/> Sweden	<input type="checkbox"/> Other
<input type="checkbox"/> France	<input type="checkbox"/> Malta	<input type="checkbox"/> United Kingdom	

7. Please specify your answer in case you chose "other" in the previous question.

Questions concerning your school curriculum

8. From which European School did you obtain your European Baccalaureate ?

<input type="radio"/> Alicante (ES)	<input type="radio"/> Frankfurt (DE)
<input type="radio"/> Bergen (NL)	<input type="radio"/> Karlsruhe (DE)
<input type="radio"/> Bruxelles I (Uccle, BE)	<input type="radio"/> Luxembourg I (Kirchberg, LU)
<input type="radio"/> Bruxelles II (Woluwé, BE)	<input type="radio"/> Mol (BE)
<input type="radio"/> Bruxelles III (Ixelles, BE)	<input type="radio"/> München (DE)
<input type="radio"/> Culham (UK)	<input type="radio"/> Varese (IT)

9. How old were you when you obtained your European Baccalaureate at that European School ?

16 years or younger	17 years	18 years	19 years	20 years	over 20
<input type="radio"/>					

10. Which score did you obtain ?

<input type="radio"/> don't remember	<input type="radio"/> 75-79%
<input type="radio"/> 60-64%	<input type="radio"/> 80-84%
<input type="radio"/> 65-69%	<input type="radio"/> 85-89%
<input type="radio"/> 70-74%	<input type="radio"/> 90 % or more

11. Did you study at another European School before attending the European School at which you obtained your European Baccalaureate ?

Yes	No
<input type="radio"/>	<input type="radio"/>

12. Did you study at an international (but not a European) school before attending the European School at which you obtained your European Baccalaureate ? By international school, we mean any type of school providing education in a language that is not the language of the country in which this school is established, or whose population is mainly composed of people of another nationality than the one of this country (e.g. Lycée français, Deutsche Schule, etc.).

Yes	No
<input type="radio"/>	<input type="radio"/>

13. In case you answered "yes" to question 11, please specify the School or Schools (in chronological order) and the number of years you studied there.

School	<input type="text"/>
Number of years	<input type="text"/>
School	<input type="text"/>
Number of years	<input type="text"/>
School	<input type="text"/>
Number of years	<input type="text"/>

14. Total number of years you have studied at a European school (all schools taken together in case you attended more than one)

<input type="radio"/> 1 year	<input type="radio"/> 4 years	<input type="radio"/> 7 years	<input type="radio"/> 10 years
<input type="radio"/> 2 years	<input type="radio"/> 5 years	<input type="radio"/> 8 years	<input type="radio"/> 11 years
<input type="radio"/> 3 years	<input type="radio"/> 6 years	<input type="radio"/> 9 years	<input type="radio"/> 12 years or more

15. How many classes did you fail and need to repeat while attending a European school (please specify the total number of years due to repeating classes)

none (if so, continue with question 17)	1 year	2 years	more than 2 years
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. What was or were, in your opinion, the reason(s) you had to repeat one or more classes? Please indicate the reasons that have had an influence, either by typing a number starting with 1 for the most important reason, or by simply typing an X in the corresponding box(es).

<input type="checkbox"/>	I came from another school, and my level turned out to be insufficient
<input type="checkbox"/>	I have been absent for a rather long time (e.g. because of health problems)
<input type="checkbox"/>	I had generally difficulties with most courses, even in my own language
<input type="checkbox"/>	I had difficulties with the courses taught in a foreign language (e.g. history, geography)
<input type="checkbox"/>	I had difficulties with the level of the science courses
<input type="checkbox"/>	I had difficulties with the level of the math. courses
<input type="checkbox"/>	I had difficulties with the foreign language courses
<input type="checkbox"/>	Other

17. Please specify your answer in case you chose "other" in the previous question.

<input type="text"/>

18. Please indicate the languages you mastered when you graduated (L0 = language or languages you spoke at home when you started attending a European school, L1 = language of your language section, L2 = first foreign language, used for history, geography, etc., L3 = second foreign language, L4 = third foreign language, L5 = fourth foreign language)

	L0 = mother tongue	L1 = language of my section (can be equal to L0)	L2 = first foreign language	L3 = second foreign language	L4 = third foreign language	L5 = fourth foreign language
Bulgarian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Czech	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Danish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dutch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
English	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Estonian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finnish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
French	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
German	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Greek (modern)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hungarian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Italian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Latvian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lithuanian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maltese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Polish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portuguese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Romanian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slovak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slovenian	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spanish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Swedish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Which options did you take in your final year of secondary ?

Art	_____
Biology	_____
Chemistry	_____
"Short" Economics	_____
"Long" Economics	_____

Geography	_____
History	_____
ICT	_____
L1 specialisation (language of your section)	_____
L2 specialisation (first foreign language)	_____
L3 (second foreign language)	_____
L4 (third foreign language)	_____
Latin	_____
"Short" Mathematics	_____
"Long" Mathematics	_____
Music	_____
Old Greek	_____
Physics	_____
Philosophy	_____

20. Did you start university or equivalent studies after your graduation? If your answer is "yes", please continue with question 22, if it is "no", continue with question 21.

Yes	No
<input type="radio"/>	<input type="radio"/>

21. If your answer is "no" to question 20, please specify the reason why, and then continue with question 25.

Questions concerning your academic or higher education career
Information about the college(s), university or universities you attended

22. Please describe the first college or university you attended (first = where you started after graduation from the European school, even if you did not obtain a diploma there and/or changed from faculty or direction). Please note that by country of origin, we mean the country or one of the countries you specified in question 4

Country	<input type="text"/>
Type	<input type="text"/>
Year at which you started	<input type="text"/>
Main teaching language used	<input type="text"/>
Second teaching language used	<input type="text"/>
Highest diploma obtained at this institution	<input type="text"/>
Faculty or direction for this highest diploma	<input type="text"/>
Specify after how many years you obtained the diploma or left the institution (include years of interruption; see next question)	<input type="text"/>
Did you change faculty or direction during your studies at this institution	<input type="text"/>
Did you interrupt your studies, e.g. for military service. If so, indicate the number of years of interruption that are included in the number specified above	<input type="text"/>
Degree obtained (A = highest degree possible, E = lowest degree allowed to obtain the diploma)	<input type="text"/>

23. Please describe the second college or university you attended (second = where you started after leaving the first high school or university in question 22).

Country	<input type="text"/>
Type	<input type="text"/>
Year at which you started	<input type="text"/>
Main teaching language used	<input type="text"/>
Second teaching language used	<input type="text"/>
Highest diploma obtained at this institution	<input type="text"/>
Faculty or direction for this highest diploma	<input type="text"/>
Specify after how many years you obtained the diploma or left the institution (include years of interruption; see next question)	<input type="text"/>
Did you change faculty or direction during your studies at this institution	<input type="text"/>
Did you interrupt your studies, e.g. for military service. If so, indicate the number of years of interruption that are included in the number specified above	<input type="text"/>
Degree obtained (A = highest degree possible, E = lowest degree allowed to obtain the diploma)	<input type="text"/>

24. Please describe the third college or university you attended (third = where you started after leaving the institution mentioned in question 23)

Country	<input type="text"/>
Type	<input type="text"/>
Year at which you started	<input type="text"/>
Main teaching language used	<input type="text"/>
Second teaching language used	<input type="text"/>
Highest diploma obtained at this institution	<input type="text"/>
Faculty or direction for this highest diploma	<input type="text"/>
Specify after how many years you obtained the diploma or left the institution (include years of interruption; see next question)	<input type="text"/>
Did you change faculty or direction during your studies at this institution	<input type="text"/>
Did you interrupt your studies, e.g. for military service. If so, indicate the number of years of interruption that are included in the number specified above	<input type="text"/>
Degree obtained (A = highest degree possible, E = lowest degree allowed to obtain the diploma)	<input type="text"/>

Questions concerning your professional career. Please note that students' jobs are not considered to be part of your professional career, but that internships are

25. Year in which you started your professional career

<input type="radio"/> I have not yet started a professional career
<input type="radio"/> Immediately after my European Baccalaureate
<input type="radio"/> 1 year after my European Baccalaureate
<input type="radio"/> 2 years or more after my European Baccalaureate
<input type="radio"/> Immediately after the end of my academic career
<input type="radio"/> 1 year after the end of my academic career
<input type="radio"/> 2 years or more after the end of my academic career

26. Please specify the type of sector or activity in which you started your professional career. Please also indicate if the institution, organisation or company where you work(ed) has a national or international character

	Type of sector or activity	Character		Comments (optional)
	(one choice only)	International	National	
European Institution (Commission, Parliament, Central Bank, European Agency, etc.)	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
International institution (IMF, OECD, etc.)	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
National or local public service	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Commerce	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Finance	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Law	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Health	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Engineering	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Consultancy	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Teaching	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Higher education	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Media	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Arts, culture and sports	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Professional, social or political organisation	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Agriculture	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Manufacturing	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

Transport	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Construction	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Other	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

27. Level at which you started your professional career

- Employee level
- Executive level (counsellor)
- Management level supervising up to 4 persons
- Management level supervising 5 to 9 persons
- Management level supervising 10 to 24 persons
- Management level supervising 25 or more persons
- Self employed
- Other

28. Please specify your answer in case you chose "other" in the previous question.

29. Main language used at the start of your professional career

- Mainly the language of my section (L1) at the European School
- Mainly (an)other language(s)
- L1 and (an)other language(s) on a more or less equal basis

30. If you answered "other" or "L1 and other" in the previous question, please specify the "other" language(s) you used at the start of your professional career. Note that you can select more than one language, but only if they are used on a more or less equal basis

- Bulgarian English German Italian Polish Slovenian
- Czech Estonian Greek (modern) Latvian Portuguese Spanish
- Danish Finnish Hungarian Lithuanian Romanian Swedish
- Dutch French Irish Maltese Slovak Other

31. Please specify the type of sector or activity in which you are currently working or where you have finished your professional career. Please also indicate if the institution, organisation or company where you work(ed) has a national or international character

	Type of sector or activity	Character		Comments (optional)
	(one choice only)	International	National	
European Institution (Commission, Parliament, Central Bank, European Agency, etc.)	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
International institution (IMF, OECD, etc.)	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
National or local public service	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Commerce	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Finance	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Law	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Health	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Engineering	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Consultancy	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Teaching	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Higher education	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Media	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Arts, culture and sports	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Professional, social or political organisation	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Agriculture	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Manufacturing	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Transport	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Construction	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
Other	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>

32. Present level, or level at which you ended your professional career

<input type="radio"/> Employee level
<input type="radio"/> Executive level (counsellor)
<input type="radio"/> Management level supervising up to 4 persons
<input type="radio"/> Management level supervising 5 to 9 persons
<input type="radio"/> Management level supervising 10 to 24 persons
<input type="radio"/> Management level supervising 25 or more persons
<input type="radio"/> Self employed
<input type="radio"/> Other

33. Please specify your answer in case you chose "other" in the previous question.

34. Main language used in your present professional position

- Mainly the language of my section (L1) at the European School
- Mainly (an)other language(s)
- L1 and (an)other language(s) on a more or less equal basis

35. If you answered "other" or "L1 and other" in the previous question, please specify the "other" language(s) you use in your present situation or that you used at the end of your professional career. Note that you can select more than one language, but only if they are or were used on a more or less equal basis

- | | | | | | |
|------------------------------------|-----------------------------------|---|-------------------------------------|-------------------------------------|------------------------------------|
| <input type="checkbox"/> Bulgarian | <input type="checkbox"/> English | <input type="checkbox"/> German | <input type="checkbox"/> Italian | <input type="checkbox"/> Polish | <input type="checkbox"/> Slovenian |
| <input type="checkbox"/> Czech | <input type="checkbox"/> Estonian | <input type="checkbox"/> Greek (modern) | <input type="checkbox"/> Latvian | <input type="checkbox"/> Portuguese | <input type="checkbox"/> Spanish |
| <input type="checkbox"/> Danish | <input type="checkbox"/> Finnish | <input type="checkbox"/> Hungarian | <input type="checkbox"/> Lithuanian | <input type="checkbox"/> Romanian | <input type="checkbox"/> Swedish |
| <input type="checkbox"/> Dutch | <input type="checkbox"/> French | <input type="checkbox"/> Irish | <input type="checkbox"/> Maltese | <input type="checkbox"/> Slovak | <input type="checkbox"/> Other |

36. Number of years you occupy your present professional position, or you have occupied it in case you have come at the end of your career

- | | |
|--------------------------------------|--|
| <input type="radio"/> 1 year or less | <input type="radio"/> 6 years |
| <input type="radio"/> 2 years | <input type="radio"/> 7 years |
| <input type="radio"/> 3 years | <input type="radio"/> 8 years |
| <input type="radio"/> 4 years | <input type="radio"/> 9 years |
| <input type="radio"/> 5 years | <input type="radio"/> 10 years or more |

37. How many times have you changed employer since you started your professional career ?

Not applicable, because I am self employed	Never	Once	Twice	Three times	Four times or more
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Questions about your degree of satisfaction of the European Schools' system

38. Try to define the way in which, to your feeling, the European Schools' system (including the European Baccalaureate) prepared you to your **academic** career

I felt much better prepared than my fellow students at the university or college	I felt evenly well prepared as my fellow students	I felt less well prepared than my fellow students	I did not start an academic career	no opinion
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. Was the level of your mother tongue education in the European school high enough to follow the courses at the college or university you attended ?

Not applicable, since I did not have tertiary education in my mother tongue	Yes, I had no problems	The level was barely adequate	No, I had many problems
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. Try to define the impact the fact you graduated from a European School has probably had on your **professional** career

no impact	some impact	determining impact	I have not yet started my professional career	no opinion
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

41. Do you still keep contact with other graduates from your European School for professional reasons (networking) ?

<input type="radio"/> Yes, on a regular basis
<input type="radio"/> Yes, but very occasionally
<input type="radio"/> Hardly ever
<input type="radio"/> Never

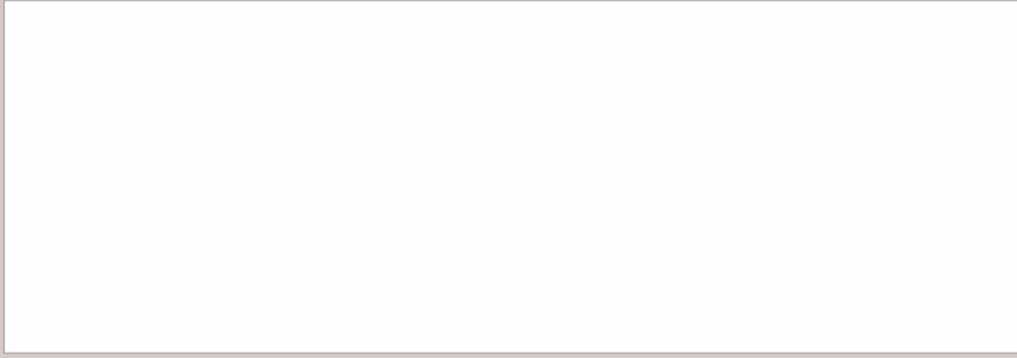
42. Do you still keep contact with other graduates from your European School for other than professional reasons (social reasons) ?

<input type="radio"/> Yes, on a regular basis
<input type="radio"/> Yes, but very occasionally
<input type="radio"/> Hardly ever
<input type="radio"/> Never

43. Do you or would you recommend the European school system for children of your friends or relatives ?

<input type="radio"/> Yes, by all means
<input type="radio"/> Maybe
<input type="radio"/> Definitely not

44. Please comment on the reasons why you would recommend, or not recommend, the European School system



The following questions concern your social back ground. More precisely, they seek information on the professional situation and the education level of your parents at the time you graduated. The notion of parents is to be taken in its widest sense, and applies to the people who were responsible for your education (biological father and/or mother or stepfather and/or stepmother or tutors etc.). In case you passed your childhood with two families at the time you graduated, take the one with which you passed most of your time.

45. Please specify the category of pupils you belonged to

- Category I (at least one of my parents worked for a European institution)
- Category II (at least one of my parents worked for an (international) institution or company, that paid my school fees)
- Category III (my parents had to pay my school fees themselves)

46. How would you qualify the professional situation of your parents at the time you graduated ?

	(step-)father or equivalent	(step-)mother or equivalent
Not applicable	<input type="checkbox"/>	<input type="checkbox"/>
Unemployed	<input type="checkbox"/>	<input type="checkbox"/>
Employee level A or A* of a European Institution (or equivalent if on contract basis)	<input type="checkbox"/>	<input type="checkbox"/>
Employee level B or B* of a European Institution (or equivalent if on contract basis)	<input type="checkbox"/>	<input type="checkbox"/>
Employee level C or C* of a European Institution (or equivalent if on contract basis)	<input type="checkbox"/>	<input type="checkbox"/>
Employee level D or D* of a European Institution (or equivalent if on contract basis)	<input type="checkbox"/>	<input type="checkbox"/>
National expert linked to a European Institution	<input type="checkbox"/>	<input type="checkbox"/>
Civil servant of level equivalent to A or A* of a non-EU Institution	<input type="checkbox"/>	<input type="checkbox"/>
Civil servant of level equivalent to B or B* of a non-EU Institution	<input type="checkbox"/>	<input type="checkbox"/>
Civil servant of level equivalent to C or C* of a non-EU Institution	<input type="checkbox"/>	<input type="checkbox"/>
Civil servant of level equivalent to D or D* of a non-EU Institution	<input type="checkbox"/>	<input type="checkbox"/>
Member of the Corps diplomatique	<input type="checkbox"/>	<input type="checkbox"/>
Armed forces (including NATO and Eurocontrol), officers	<input type="checkbox"/>	<input type="checkbox"/>
Armed forces (including NATO and Eurocontrol), other ranks	<input type="checkbox"/>	<input type="checkbox"/>
Chief executives, managing directors, CEO	<input type="checkbox"/>	<input type="checkbox"/>
Administrative and commercial managers (finance, HRM, marketing, R&D, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Production and specialized services managers (including ICT)	<input type="checkbox"/>	<input type="checkbox"/>
Hospitality, retail and other services managers (hotel, restaurant, cultural centre, sport facilities, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Science and engineering professionals (researchers, scientists, engineers, statisticians, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Health professionals (medical doctors, dentists, veterinarians, ...)	<input type="checkbox"/>	<input type="checkbox"/>

Teaching professionals at university or equivalent level	<input type="checkbox"/>	<input type="checkbox"/>
Teaching professionals at secondary or equivalent level	<input type="checkbox"/>	<input type="checkbox"/>
Teaching professionals at primary or early childhood level	<input type="checkbox"/>	<input type="checkbox"/>
Business and administration professionals (accountants, sales executives, PR executives, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Information and communications technology professionals (software developers, database designers, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Legal, social and cultural professionals (judges, lawyers, librarians, journalists, artists, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Science and engineering associate professionals (technicians, supervisors, plant operators, pilots, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Health associate professionals (nursery, laboratory technicians, pharmaceutical assistants, opticians, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Business and administration associate professionals (accounting, banking, sales representatives, buyers, real estate agents, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Legal, social, cultural and related associate professionals (social workers, sport coaches, photographers, interior decorators, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Information and communications technicians (network and web technicians, user support, ...)	<input type="checkbox"/>	<input type="checkbox"/>
General and keyboard clerks (secretaries, office clerks, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Customer services clerks (bank clerks, receptionists, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Numerical and material recording clerks (bookkeeping clerks, payroll clerks, stock clerks, transport clerks, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Other clerical support workers (mail sorting clerks, filing clerks, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Service and sales workers (travel guides, cooks, hairdressers, shop keepers, cashiers, protective services workers, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Skilled agricultural, forestry and fishery workers (vegetable growers, poultry producers, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Craft and related trades workers (building workers, welders, mechanics, repairers, printers, ...)	<input type="checkbox"/>	<input type="checkbox"/>
Plant and machine operators, and assemblers	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

47. Please specify your answer in case you chose "other" in the previous question.

48. Please specify the education level of your parents, by indicating the highest diploma they have obtained.

	(step-)father or equivalent	(step-)mother or equivalent
Not applicable	<input type="checkbox"/>	<input type="checkbox"/>
No diploma or primary education	<input type="checkbox"/>	<input type="checkbox"/>
Lower secondary education	<input type="checkbox"/>	<input type="checkbox"/>
Upper secondary education	<input type="checkbox"/>	<input type="checkbox"/>
Post secondary not higher education	<input type="checkbox"/>	<input type="checkbox"/>
Higher education short type - 1st cycle (bachelor or equivalent)	<input type="checkbox"/>	<input type="checkbox"/>
Higher education long type - 2nd cycle (master or equivalent)	<input type="checkbox"/>	<input type="checkbox"/>
Higher education long type - 3rd cycle (PhD or equivalent)	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

49. Please specify your answer in case you chose "other" in the previous question.

50. Please give the possible reasons for which your parents have sent you to a European School. Please indicate the reasons that have had an influence, either by typing a number starting with 1 for the most important reason, or by simply typing an X in the corresponding box(es).

<input type="checkbox"/>	The fact that one of my parents was employed by a European Institution
<input type="checkbox"/>	The fact that I could continue my studies without losing a year
<input type="checkbox"/>	The possibility to study (partly) in my own language
<input type="checkbox"/>	The multicultural character of the school
<input type="checkbox"/>	The opportunity to obtain the European baccalaureate
<input type="checkbox"/>	The cost of the school
<input type="checkbox"/>	The average social level of the students' families
<input type="checkbox"/>	The overall quality of the teaching (both language and other courses)
<input type="checkbox"/>	The fact that there was no real alternative
<input type="checkbox"/>	Other

51. Please specify your answer in case you chose "other" in the previous question.

52. Try to define the impact your social background has probably had on your **academic** career

no impact	some impact	determining impact	I did not start an academic career	no opinion
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

53. Try to define the impact your social background has probably had on your **professional** career

no impact	some impact	determining impact	I have not yet started my professional career	no opinion
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following question deal with the "drop out"-issue, i.e. the fact that some pupils do not finish their studies at the European School, but leave the system and continue their studies elsewhere.

The European Parliament wants to know what the major reasons for this phenomenon are.

54. Do you remember if one of your fellow students left the European School for reasons other than family reasons ?

- Yes, at least one of my fellow students left our European School
- No, as far as I know, none of my fellow students left our European School
- I don't remember

55. In case you answered "yes" to the previous question, could you indicate the reason or reasons why he or she left your European School. Please indicate the reasons that have had an influence, either by typing a number starting with 1 for the most important reason, or by simply typing an X in the corresponding box(es). Think back to the fellow student you knew best.

- He or she found that the national school system was offering more interesting options
- He or she went to a boarding school in his or her home country
- He or she changed to vocational education
- He or she changed to artistic education
- He or she didn't know the language (L1) of his or her section well enough
- He or she had difficulties with learning second and/or third foreign languages
- He or she had difficulties with the courses taught in a foreign language (L2), like history or geography
- He or she had difficulties with the sciences courses
- He or she had difficulties with the math. courses
- He or she did not have a good relationship with the other pupils
- His or her special educational needs were not met
- His or her parents could no longer afford the costs
- He or she had to leave for disciplinary reasons
- Other reason

56. Please specify your answer in case you chose "other" in the previous question.

Please give your e-mail address in case you would like to receive a summary of our analysis, or simply type NO if you do not want to receive such a summary

How have you been informed about this survey ?

Please specify your answer in case you chose "other" in the previous question.

Have you finished answering this questionnaire (if yes, your answers will be saved automatically after you have pressed the Next button, if no, you can return to the previous questions by using the Previous button) ?

Yes

No

THANK YOU FOR YOUR COOPERATION

Annex 2: Letter concerning the protection of the privacy of the data

EUROPEAN SCHOOLS

Att. Mrs. Renée Christmann, Secretary General
J II/30-2/124
1049 BRUXELLES

AJL/jm-077/08
AC 414

Brussels, April 18th, 2008

Dear Madam Secretary General,

Concerns: Analysis of the academic and professional careers of the graduates of the European Schools – Study ordered by the European Parliament

Bureau van Dijk Management Consultants have been charged by the European Parliament with an analysis of the academic and professional careers of the graduates of the European Schools (*see the call for tender 2007/S 208-251913*). Obviously, the data for this analysis will have to be collected through a survey (on paper and/or in electronic form) to be sent to, and filled in by, the graduates of these schools.

The primary source for the contact data, i.e. the names and the postal or e-mail addresses of these graduates, are, of course, the European Schools themselves. We have also noticed that your Office seems to dispose of contact data for a limited number of graduates, although these are probably less complete than the ones the schools themselves dispose of (see the website <http://www.yourschool.net/Fr/ConsultDatabase.php> which uses the logo of the European Schools, so we suppose it to be an initiative supported by your Office).

Based on these considerations, we hereby solicit your help in order to obtain, on the one hand, the addresses available at the schools, and on the other hand, the addresses supposedly available at your Office:

- for the first ones, we foresee to contact the schools directly ourselves, but we would like to have a letter sent first by your Office, announcing them that van Dijk Management Consultants have been charged by the European Parliament with this study, and that your Office endorses this project
- for the second ones, and in the hypothesis that our supposition is correct, we would like to ask you to give your ICT department the necessary instructions so that we can dispose of these data in a format to be agreed.

Obviously, van Dijk Management Consultants will hereby strictly respect the conditions concerning the protection of individuals with regard to the processing of personal data, as specified in the Regulation (EC) 45/2001 of the European Parliament and of the Council. This

concerns not only the contact data of the graduates, but also the data we will receive in the form of answers to the questionnaires that we will be using in this study. To avoid any misunderstanding on this, we would like to detail these conditions in the following way:

- 1) The graduates will receive, from the part of van Dijk Management Consultants, mandated in this respect by the European Parliament, all the information as foreseen in article 11 of the aforementioned Regulation.
- 2) The contact data and the answers to the questions in the survey, and the information and conclusions that can be deduced there from, will only be used within the strict limits of the study as defined in the aforementioned call for tender.
- 3) The data, answers and information as foreseen in point 2) will only be communicated to the European Parliament (who is solely qualified to decide any further distribution thereof), but will not be communicated by van Dijk Management Consultants to any third party.
- 4) All data files on paper and/or in electronic form (as said: the contact data as well as the answers to the questionnaire and data files based thereupon), will be destroyed after the acceptance of the final report of the consultants by the European Parliament.

As already said, as soon as this letter will have been sent by your Office to the schools, we will contact each of them in order to obtain the contact data we need for this study. We will, with your approval, also ask the schools to give us the contact data for one or two pupils currently in their final year of secondary. We need these data since it has been foreseen that the draft of the questionnaire that has been prepared (*see a copy in appendix*) will be tested by a test panel composed of a limited number of such pupils (a second panel is also foreseen, and will be composed of graduates who are currently working for a European institution). We would suggest the schools to select these pupils amongst the representatives in the Central Students Committee (COSUP), but we will, of course, accept all other pupils they might deem qualified for this test.

Given the timeframe that is foreseen by the European Parliament for this study, we take the liberty to insist on the urgency of this request of sending a letter from your Office announcing, as said, 1) that van Dijk Management Consultants have been charged by the European Parliament with this study, 2) that we will contact the individual schools in order to obtain the contact data of their graduates and of a few pupils that might participate in the test of the questionnaire, and 3) that we will strictly respect the conditions as foreseen in the Regulation (EC) 45/2001, not only for the contact data as such, but also for the answers that we will collect at a later stage through our questionnaire.

We are, of course, at your disposal for any additional information you might wish, and remain,

Yours sincerely,

J. MOENS
Project manager

Annex 3: Detailed analysis of the curriculum of the European Schools' system

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Introduction

The (school) *curriculum* can be defined as being the teaching program organised in the context of a teaching institution, being composed of a coherent set of learning contents and situations leading to a definite progression (translation from the *Dictionnaire encyclopédique de l'éducation et de la formation*. Nathan, 1998). Besides the official and formal instructions (with objectives, contents, learning situations, means, ...), that compose the explicit curriculum, several authors also identify an implicit curriculum, *i.e.* the experiences by the pupils that are not explicitly defined in the instructions, as *e.g.* the rules for «doubling» classes or the setting up of different school programs, which may have repercussions on several aspects of the pupil's development (see the reflections by Perrenoud (1994) on what he calls «the pupil's profession»).

The following analysis concerns the programs adopted by the European Schools, and thus concern the explicit curriculum, but also some aspects of life in the schools which can, deliberately or not, have an impact on the pupils' profiles: first of all, of course, the multicultural and multilingual environment aspects (which could be qualified as being rather obvious, given the objectives of the European Schools system), but also the support foreseen for pupils with difficulties, be it in the field of languages or in other fields.

The analysis of the curriculum of the European Schools will focus on six main subjects:

1. The primary school, which may play an important role notably for the integration of children having diverse cultural and linguistic backgrounds.
2. The place the curriculum foresees for the different subjects, which is a measure for the importance attached to each of them.
3. The languages and the multilingualism, being a major characteristic of the European Schools allowing the pupils to learn in an intensive way foreign (modern) languages.
4. The «European hours», an activity proper to the European Schools, that foresee a grouping of pupils from different backgrounds in a way that can be decided by each school in an autonomous way.
5. The teaching of sciences, an aspect of compulsory education that is considered as essential by most specialists, as well for the future professional career of the pupils themselves, as for the prosperity of the society of which they will become part.
6. The measures taken for children with learning difficulties, be it concerning languages (pupils whose mother tongue does not correspond to the language of their section, or pupils having arrived in the course of the school year), or concerning one or more courses, and linked to the «drop out» phenomenon.

The analysis will be based as much as possible on the studies realized by the European unit Eurydice concerning the different teaching systems in Europe. As far as languages are concerned, reference will be made to the *Common European Framework of Reference for Languages (CEFRL, Council of Europe, 2000)*. The references of the syllabuses are given in footnotes, while those of the external papers are shown together at the end of the appendix.

I. NURSERY AND PRIMARY SCHOOL

According to Eurydice (2005a, p. 49-57), it is possible to have a child placed in establishments depending from the Ministry of Education, generally from the age of 3 (10 school systems) or even younger (11 school systems). The attendance to this educational level is not compulsory in most countries. This is also the case of the European Schools, who can welcome children

between 4 and 6 years old, *i.e.* a little bit later than the majority of the countries of the European Union.

«*The general introduction to the nursery and primary school*»²⁴ recalls the objectives of the nursery and primary level and refers to a framework plan drawn up by the Board of Inspectors for the nursery and primary level, in cooperation with the teachers of the nursery level²⁵.

This framework not only fixes the objectives, but also elucidates the principles of the nursery and primary level, and defines the competences to be developed in different domains: spoken and written language, mathematics, early-learning activities, artistic education, physical education and cultural education.

The nursery level education has two objectives: the development of the potentials of all children, and the acquisition of fundamental competences for a successful schooling. Besides contents that are similar to the ones found in national educational systems, the framework also emphasises some aspects that are specific to the schooling at a European school:

- To offer, thanks to the social interaction, the opportunity to understand other nationalities and cultures.
- To offer a calm and welcoming atmosphere in order to support children who might have problems specifically related to life in a multicultural environment (linguistic problems, lack of references, frequent absences from the parents for professional reasons ...).
- To foresee projects common to several classes and language sections.
- To attach special attention to children who live in a multilingual context, as well as to those whose mother tongue is not the one in which they are taught.

The nursery level plays a very important role in the schooling of children who have to attend a language section that does not correspond to their mother tongue (*see the chapter devoted to the treatment given to children with difficulties*).

Concerning the early-learning activities, it is specified that «*the specificity of the European School is to offer to all access to cultures and traditions of the different European countries*» (p. 20).

As said, the framework plan repeats, with no doubt in view of preventing barriers between the different language sections, that it is necessary «*To foresee projects common to several classes and language sections*» (p. 5).

The nursery school has two objectives concerning the language of the section, which is in principle the mother tongue of the children: on the one hand, to communicate fluently, and on the other to come in touch with the written language and learn how to use it.

²⁴ *General introduction to the nursery and primary curricula*. Approved by the Board of Governors of the European Schools at its meeting in Brussels on 1 and 2 February 2005 (reference: 2004-D-207-en-7).

²⁵ *Education at nursery and primary school*. Approved by the Board of Governors of the European Schools at its meeting in Brussels on 26, 27 and 28 January 1999 in Brussels (reference: 1999-D-132). According to the Pedagogy Unit, a program for the nursery education is under preparation.

The curriculum proposes general objectives that are further detailed into specific objectives, some of which could be described as functional, whereas others seem to have a more instrumental value, corresponding to skills that, according to several theories, form a necessary condition for the objectives aimed at.

Concerning the spoken language, the child must know «how to listen to others» and «identify individual sounds». In order to do so, it is recommended to listen to short stories, poems and songs, but also to recognize and distinguish sounds and rhymes, and to «detect the invader». Children also have to learn «how to express themselves in a clear way», «develop vocabulary», «develop reasoning skills» and «develop their capacities of communicating and oral expression». In order to attain these general objectives, more specific objectives are proposed, some of which can be seen as classroom activities: «describe an image in detail», «describe how a job has been done and with what material», «play a playlet», etc.

Concerning the written language, one finds specific objectives such as «understand that the written language carries content», «recognize one's name after reading it», «take care of the books», but also «recognize and complete representations of simple and known objects partly hidden», which seem rather far from the objectives put forward. Learning how to write must also make its start: «hold and use correctly a chalk, a pencil, scissors, a brush, ...», «play and draw letters», «write one's name in a readable way», ...

The curriculum of the nursery school takes into account a high degree of the potentials and the specific difficulties of the European Schools, and highlights the importance of attending them. The proposed contents are very varied.

II. PLACE OCCUPIED BY DIFFERENT SUBJECTS AT PRIMARY AND SECONDARY LEVEL

Eurydice (2005a) gives information on the timetables of pupils in the member states and candidate members of the European Union. These data concern the year 2002-2003 (an update is on its way). The durations given hereafter are expressed in «real» hours of 60 minutes and not in teaching periods of *e.g.* 45 or 50 minutes, also sometimes called «hours» in the documents we consulted.

A. THE TIMETABLE ON YEARLY BASIS

As far as the total numbers of teaching hours (excluding playtime) are concerned, the 851 hours of the European Schools at primary level are slightly above the median of the 31 European educational systems²⁶, with numbers varying between 478 and 980 hours per year. With numbers varying between 478 and 980 hours per year; the 851 hours correspond to the 8th place on a total of 32²⁷ (in decreasing order).

The average number of hours at secondary level is 849 or 2 less than at primary, whereas the average difference between the two levels is 170 more hours at secondary level than at primary for the European Union. Only 9 educational systems (or tracks) on a total of 37 have less hours than the European Schools, 2 have the same number, while the 30 others have higher numbers (up to a maximum of 1.289 hours for The Netherlands). It should be emphasized that these are

²⁶ There are, at this level, 32 educational systems, but no data were available for Ireland.

²⁷ No data were available for Ireland.

minimal numbers, to which have to be added, for each educational system, optional courses. When those optional courses are taken into account, the maximum average number of hours in the European Schools reaches 930 hours par year.

B. THE PLACE OCCUPIED BY THE DIFFERENT SUBJECTS

We have calculated the time devoted to the different subjects at primary and secondary level, and compared them with data collected by Eurydice for the educational systems in the EU27. In case a given subject is not part of the compulsory curriculum, the time devoted to it has been set at 0. In several school systems, some if not all the subjects are compulsory, but no minimum number of hours is specified; this explains why the number of educational systems with which a comparison can be made will differ according to the subject, and the ranking of the European Schools (in decreasing order of time devoted to each subject) takes into account only those school systems for which comparable data are indeed available.

Primary level

At primary level, the curriculum of the European Schools is situated, for each of the subjects, between the minimum and the maximum observed in the EU27 (*see table 1*).

Table 1: Proportion of time devoted to the compulsory subjects in primary education.
Sources: Presentation brochure «The European Schools » and Eurydice, 2005a

Primary level	European Schools (ES)	Number of national systems in the EU	Minimum EU	Maximum EU	Median EU	Ranking of ES within EU
Teaching language	31 %	23	4 %	39 %	24 %	9
Mathematics	20 %	23	4 %	23 %	17 %	5
Exact sciences ²⁸	5 %	22	3 %	12 %	6 %	15
Human sciences	9 %	22	2 %	21 %	7 %	7
Foreign languages	14 %	28	2 %	39 %	5 %	3
Sports ²⁹	5 %	24	3 %	15 %	9 %	23
Arts	11 %	22	3 %	22 %	13 %	18
Religion/ non-confessional ethics	5 %	25	1 %	15 %	6 %	15
ITC	0 %	–	0 %	1 %	0 %	–
Compulsory options	0 %	–	0 %	1 %	0 %	–
Other	0 %	–	0 %	6 %	0 %	–
Flexible time schedule	0 %	–	0 %	100 %	5 %	–
Total	100 %	–	–	–	–	–

²⁸ The time devoted in the European Schools to the subject «Discovery of the world» has been shared between «exact sciences» and «human sciences», on the basis of the content of the program.

²⁹ The time globally devoted in the European Schools to art, music and physical education, has been shared between «Arts» and «Sports» (2/3 for arts and 1/3 for sports) as no repartition was specified in the time schedule.

A more detailed analysis clearly shows the relative importance attached to the teaching language, to mathematics and to foreign languages, since indeed for each of these subjects the proportion of time devoted to them is higher than the median value, with respectively a 9th, 5th and 3rd position. The difference is particularly important for the foreign languages, where the proportion of time (14% for the European Schools) is higher in only two rather special cases: Malta (22%) and Luxemburg (39%).

On the other hand, the European Schools' curriculum foresees little time for sports (23rd position) and arts (18th position).

No ranking can be given for ICT (information and communication technologies), for compulsory options nor for «others» or «flexible time schedule», given the fact that just few countries specify the time that has to be devoted to these subjects. Only one country (Poland) imposes that 1% of the teaching time should be devoted to ITC, whereas in four other educational systems the teaching of ITC is compulsory, but the number of hours is not specified (this is the case for the Netherlands, where the whole curriculum is free, England, Wales and Scotland).

Secondary level

At secondary level, the proportion of time devoted to the different subjects within the European Schools' curriculum is generally very close to the median value observed in the national systems in the EU. The only subjects for which a relatively important difference can be observed are artistic activities (5% below the median) and foreign languages (3% above the median). Note that these percentages are based on compulsory hours only, and do not include the optional hours, and that in the European Schools the offer is particularly rich for pupils who want to improve their foreign language skills (*see also below*). Note also that the exact sciences occupy a favourable ranking (8th position).

Table 2: Proportion of time devoted to the compulsory subjects in full time compulsory general secondary education. Sources: Presentation brochure «The European Schools » and Eurydice, 2005a

Secondary level	European Schools (ES)	Number of national systems in the EU	Minimum EU	Maximum EU	Median EU	Ranking of ES in EU+ES
Teaching language	14 %	34	1 %	23 %	13 %	16
Mathematics	12 %	34	5 %	17 %	12 %	13
Exact sciences	13 %	34	4 %	21 %	11 %	8
Human sciences	13 %	33	3 %	17 %	12 %	10
Foreign languages	17 %	33	0 %	34 %	14 %	7
Sports	8 %	34	2 %	13 %	8 %	13
Arts	5 %	31	2 %	29 %	10 %	23
Religion/non-confessional ethics	5 %	30	0 %	7 %	3 %	10
ITC	1 %	34	0 %	8 %	1 %	17
Compulsory options	13 %	35	0 %	22 %	0 %	5
Other	0 %	36	0 %	12 %	0 %	14
Flexible time schedule	0 %	36	0 %	100 %	0 %	12
Total	100 %	–	–	–	–	–

III LANGUAGES AND MULTILINGUALISM

The European Schools pursue several objectives the teaching of languages and their use may contribute to: first of all, «develop high standards in the mother tongue and in foreign languages», but also «give pupils confidence in their own cultural identity – the bedrock for their development as European citizens», «encourage a European and global perspective overall and particularly in the study of the human sciences» and «foster tolerance, co-operation, communication and concern for others throughout the school community and beyond» (Source: <http://www.eurisc.eu/index.php?!=2>).

The presentation brochure «The European Schools» devotes several paragraphs to the description of the place the languages occupy in the curriculum. Their interest and the status of the information given there justify, to our feeling, a quotation *in extenso*.

Basic instruction is given in the official languages of the European Union. This principle allows the primacy of the pupil's mother tongue (L1) to be safeguarded.

Consequently, each school comprises several language sections. The curricula and syllabuses (except in the case of mother tongue) are the same in all sections.

In the schools where the creation of a separate language section is not justified, they are governed by an intergovernmental Protocol. The Convention defining the Statute of the European Schools, which replaces the earlier agreements dating back to 1957 and 1984, entered into force in October 2002 after ratification by the fifteen Member States of the European Union.

To foster the unity of the school and encourage genuine multi-cultural education, there is a strong emphasis on the learning, understanding and use of foreign languages. This is developed in a variety of ways:

- *the study of a first foreign language (English, French or German), known as L2, is compulsory throughout the school, from the first primary class*
- *all pupils must study a second foreign language (L3), starting in the second year of secondary school. Any language available in the school may be chosen*
- *pupils may choose to study a third foreign language (L4) from the fourth class of secondary school. Any language available in the school may be chosen*
- *language classes are composed of mixed nationalities and are taught by native speakers*
- *a weekly «European Hour» in the primary school brings together children from all sections for cultural, artistic and games activities*
- *in the secondary school, classes in art, music and physical education are always composed of mixed nationalities*
- *from the third class of secondary school, history and geography are studied in the pupil's first foreign language, also called the working language (English, French or German). Economics, which may be taken as an option from the fourth class of the secondary school, is also studied in a working language. From the third class, therefore, all social science subjects are taught to groups of mixed nationalities*
- *finally, everyday interaction in the playground, the corridors and the recreation rooms enhances the acquisition of other languages and the realisation that using them is not only vital but natural.*

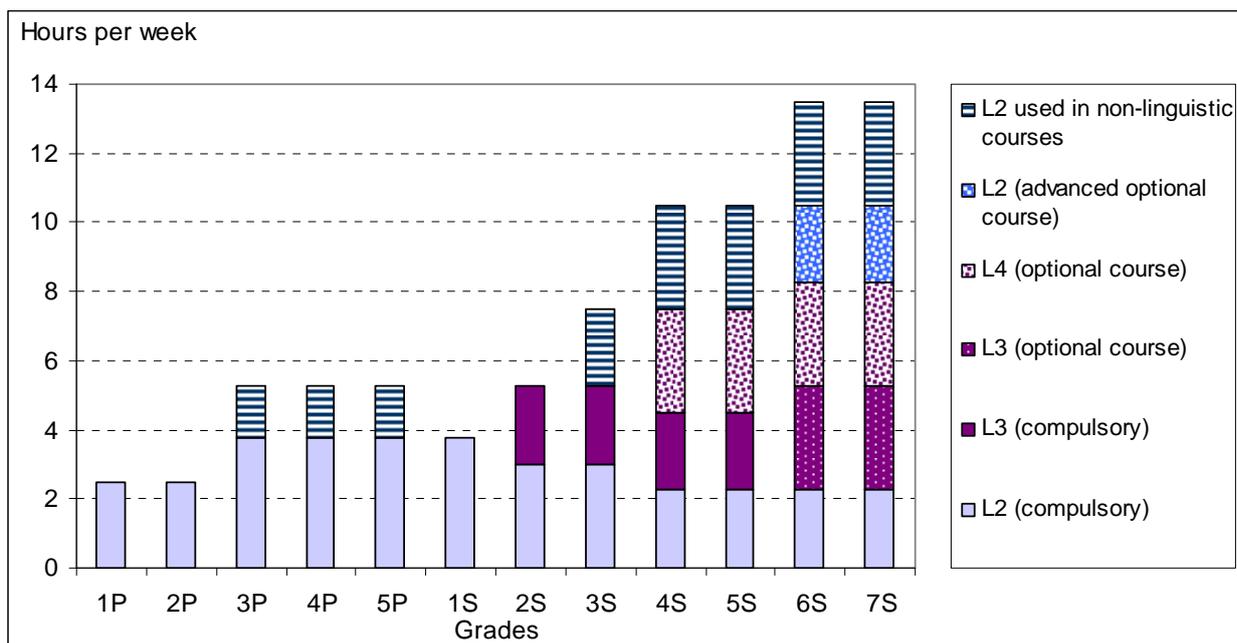
We have examined the main characteristics of the curriculum about foreign languages and also the way the teaching of this subject is organized, by using different angles: the organization of the opportunities to learn and the teaching program are described, analysed, and, as far as possible, compared with the reality of national schooling systems.

Languages occupy an important place in the education of all the pupils of the European Schools, but the curricula leave room for large variations in the part they take in the whole timetable (*see figure 1*).

For the first foreign language (L2), also called vehicular language, the minimum is 2.5 hours in the 1st and 2nd years of primary, 3.75 from the 3rd to the 5th of primary and in the 1st of secondary, 3 in the 2nd and 3rd of secondary, and finally 2.25 hours from the 4th to the 7th of secondary. These numbers show minimum hours of foreign language courses, to which have to be added, for most pupils at the end of primary (*see below*) and for all starting with the 3rd of secondary, the transdisciplinary use of this L2 for human sciences (history and geography).

A second foreign language (L3) is taught to all students from the 2nd to the 5th of secondary, and takes 2.25 hours per week.

Figure 1: Number of hours for foreign language courses (with minimum and maximum values) and of hours of courses of human sciences taught in a foreign language



From the 4th of secondary on, pupils can improve their linguistic competences further: they can include a new foreign language (L4) to their program. From the 6th of secondary on, they can also opt for a specialisation (*approfondissement*) of L2 and/or deepen their knowledge of L3. Moreover, depending upon the options chosen, several additional subjects can be taught in L2: this concerns economics and possibly, if the resources are available, other options as well (or, more correctly, if insufficient resources are available to teach specific options in the language of the section, which would be the normal practice, pupils can follow these options in another language).

Consequently, at the end of the secondary level, the teaching of foreign languages as such can vary between 2.25 and 10.5 hours per week, to which are to be added the number of hours taught in L2 for non-linguistic courses.

A. COMPARISON OF THE AGE AT WHICH THE TEACHING OF FOREIGN LANGUAGES STARTS

As we have seen, the pupils at the European Schools start learning their first foreign language L2, also called vehicular language, from the 1st of primary. They have to choose between English, French or German.

Together with the schools in Malta (5 years) and Luxemburg (6 years), the European Schools occupy a pole position within the national school systems of the EU (Eurydice, 2005b, p. 24).

B. THE L2 SYLLABUS AT PRIMARY LEVEL

We shall start our analysis of the programs by taking the case of French first, since this program has been updated most recently; we shall then, in a second step, analyse the common points and the differences with the programs of the two other L2, English and German.

French as L2³⁰

The program of French as L2 at primary level contains 24 communication acts (to which are added listening and reading for pleasure, but these are not to be evaluated in the progress grid), for which 7 competence levels are defined. This approach is coherent with the Council of Europe one (2000) concerning the Common European Framework of Reference for Languages (CEFRL). In the program used for French teaching in the five primary classes of the European Schools' system, the five lower competence levels correspond to one year each, with the sixth and seventh level being reserved for more skilled pupils. By way of example, the competence «*speak for ...*» includes the communication act «*present myself*», with different characteristics according to the school year (= level):

- Present oneself by repeating the correct word after each alternative proposed by the teacher (image/word) (1)
- Present oneself by answering each question asked (2)
- Present oneself in an autonomous way by using sentences starting with «I» (3)
- Present oneself according to different group criteria: family, school, club, ... (4)
- Present somebody else to the group: a new pupil, a guest, a visitor, ... (5)
- Present oneself or somebody else under an imaginary identity: mystery person, artist, clown, sketch, theatre, ... (6)
- Present oneself in the way of somebody else (person, profession, circumstances, ...) (7).

If the performances situated and ranked on a same axis would undoubtedly favour the coherence of the educational activities, nevertheless it is extremely difficult to establish a correspondence between the contents of the syllabus and CEFRL.

On the one hand, indeed, each of the 24 communication acts can correspond to different competences rather than one single as foreseen in the CEFRL:

- e.g. «I listen in order to participate in the group» materializes at level 5 in the form of «punctuate the speech of somebody else by signs, proposals, etc.», which is rather more linked to interaction (5th category in the self-assessment grills of the CEFRL, but absent as such in the program of the European Schools)
- «I read in order to find information» materializes at level 2 in the form of «recognise words of a vocabulary treated in the class», which concerns more the assessment.

On the other hand, the framework developed with the help of the Council of Europe does not aim to be exhaustive and does not necessarily cover all possible activities, all the more since in a schooling environment progress on foreign languages is conditioned by development constraints and the limits of the education received in the mother tongue: for example, the foreign language reading abilities of pupils who start primary are at least evenly limited by their reading abilities as such as by their competence in L2.

³⁰ *Programme de français langue 2 (cycle primaire)*. Approved by the Board of Governors of the European Schools at its meeting on May 6, 7 and 8, 2003 in Shannon (reference: 2002-D-7810-fr-3).

As a consequence, it would be very difficult to establish a strict correspondence between the communication acts foreseen in the program and the levels defined by the CEFRL. However, a prudent attempt to establish such a relationship yields the following result: 7 communication acts can be situated at level A2, 6 at level B, but for 10 no ranking can be given³¹. The objectives of the European Schools at the end of primary could therefore be situated at the level of the basic waystage user (A2)³², or in some cases of the independent threshold user (B1)³³ as defined in the CEFRL.

Each of the 7 levels of the 24 communication acts comes with activities aiming at the realisation of the foreseen performances: at level 1, e.g., in order to «participate in the reproduction of a short dialogue», it is suggested to «make use of puppets, masks ...». In some cases, sometimes the activities form rather a summary of prerequisites: e.g., concerning level 5 of the act «present myself», one reads «*The presentatives: may I introduce, here is ...; passing from 'I' to 'he/she'; selecting information: what is known, what is said*».

In the program of French as L2 at primary level, we identified several interesting statements which are in line with the most recent knowledge concerning the teaching of languages:

- The overall functional objective is to «receive and produce messages with functional objectives in the context of activities» (p. 4).
- An insistence on the heterogeneous character of the classes and the need to diversify the activities to take into account the diversity of the pupils.
 - The competences that should be reached are defined year by year, with two extra «years» of skills for the better performing pupils.
 - The recommendation to confront pupils having difficulties with the same communication act as their co-pupils, but at a lower level of difficulty.
- The fact that the teachers are native speakers.
- The accent put on certain continuity in the learning process («*encouraging attitudes and approaches that make the learning of a L3 easier later*»).

³¹ This ranking is in accordance with the suggestion of Damkjær (2007) according to which «*the A2 level can be requested in the listening and understanding of the spoken language skill at the end of primary level*» (p. 66).

³² The basic user A2 «*can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.*» (Council of Europe, 2000, p. 24).

³³ The independent user B1 «*can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans.*» (Council of Europe, 2000, p. 24).

The three L2 languages offered

Are the programs concerning the three L2 languages comparable? In order to answer this question, their principle characteristics are compared in the following table.

Table 3: Comparison of the main characteristics of the programs of Deutsch (German), English and Français (French) as L2 languages at primary level

PRIMARY LEVEL	Deutsch ³⁴	English ³⁵	Français ³⁶
Year of publication	1999	1997	2003
Reference to CEFRL	No	No	Yes
Reference to specific context of the ES	Yes	Yes	Yes
Reference to secondary level	Yes	Yes	Yes
Competences	6	4	5
Levels of competence (to be reached at the 5 th of primary)	5 (5)	7	7 (5)
Contents per school year	Yes	No (?)	Yes
Differentiation		Yes (±)	Yes
Complementary resources	No	Yes	No
Number of pages (appendixes)	18 pages	38 pages	24 (10) pages
Aims	2 pages	1 page	2 pages
Objectives	2 pages	4 pages	1 page
Contents	9 pages	–	15 pages
Methodology (activities – planning documents - appendix)	2 (5) pages	7 (8) pages	3 (10) pages
Assessment (detailed scoring grills)	0.5 page	4 (7) pages	1 page
Particularities	Linguistic forms - Intercultural	Rely on L1	Allusion to word processor

The publications dates for the three programs are not very recent (1997 till 2003), which would explain another difference between them: the total absence of any reference to the CEFRL in the German and English programs.

All three programs refer to the specific context of the European Schools, and also mention the secondary level for which the primary is expected to prepare the pupils.

The subjects are detailed per grade (and not per cycle) in the French and German programs, whereas the English one limits itself to specify the objectives to be reached at the end of 7

³⁴ *Lehrplan für das Fach Deutsch als zweite Sprache in der Grundschule*. Approved by the Board of Governors of the European Schools at its meeting of April 27 and 28, 1999, in Berlin (reference: 1999-D-65).

³⁵ *English language II syllabus (Primary)*. Approved by the Board of Governors of the European Schools at its meeting of April 22 and 23, 1997, in Bruges (reference: 97-D-204).

³⁶ *Programme de français langue 2 (cycle primaire)*. Approved by the Board of Governors of the European Schools at its meeting of May 6, 7 and 8, 2003 in Shannon (reference: 2002-D-7810-fr-3).

phases for each major competence, while insisting on the fact that the initial level of each child should be taken into account, as well as the continuity in his or her progress within a single school year and over different school years; however, it does not specify clearly the objectives to be reached at the end of primary.

Whereas the English syllabus considers the four major traditional competences (listen, speak, read and write), the French one in addition foresees the interaction, and the German one the recognition of linguistic forms and intercultural learning. Only the English program gives a list of references teachers could use in their approach.

When simply considering the global number of pages for each program and the number specifically devoted to each of the major themes, one can see large similarities, but an important place is given to the assessment in the English program (with the inclusion of assessment grids).

Finally, each of the syllabuses puts its own accents on a specific aspect of language learning: the German one explicitly mentions grammar («linguistic forms») and the intercultural dimension, whereas the English syllabus insists on several occasions on the support the skills in mother tongue (L1) have to provide and the French one refers to the use of a word processor.

C. THE L2 SYLLABUS AT SECONDARY LEVEL

French as L2³⁷

Following some more general considerations about the objectives of the teaching of French as L2, the program for the secondary level defines the specific objectives either per cycle (cycle 1-3 and 6-7) or per year (4th and 5th). Till the start of the 6th year, the objectives are grouped into three categories: listen-speak, read and write. They are formulated first in rather general terms (e.g. for reading, in the cycle 1-3: «*Make the pupil gradually understand written documents of different natures*»), but become more concrete in the next chapter, which defines reading as follows:

- Read written guidelines.
- Read the press intended for young people and strips.
- Understand short texts (explicative, narrative or descriptive).
- Read an integral but short book.
- Read posters.

Moreover, the appendix 1 specifies for some grades (beginning of the 1st, end of the 1st, end of the 3rd, end of the 5th) the grammatical skills considered necessary for the application of the competences in question: thus, at the end of the 3rd year, the pupil must be able to read and understand simple messages on familiar subjects. Then follows a list of grammatical competences such as «*use of simple and compound tense of the indicative*», «*passive sentences*», «*reported speech*». The vocabulary must become richer and more diversified, covering different domains according to the level: by way of example, at the end of the 3rd year, the syllabus mentions the «*different class activities concerning defending one's point of view, the expression of a doubt, the values, the beliefs, the behaviour, the emotions, the mass media*».

³⁷ *Programme de français langue 2*. Approved by the Board of Governors of the European Schools at its meeting of April 25, 26 and 27, 2005 in Luxembourg (reference: 2005-D-262-fr-3).

What are the competences that a pupil should have acquired at the end of secondary? As for the primary, it is rather difficult to match the objectives with the criteria of the CEFRL, all the more so as the syllabus often refers to more formal criteria.

For each of the competences defined by the CEFRL and that are covered by the syllabus (i.e. the five capacities mentioned in the self-assessment grids), we have tried to match the level of the syllabus with the CEFRL.

Table 4: Tentative correspondence between the syllabus of French as L2 and the Common European Framework for Reference to Languages (Council of Europe, 2000).

CAPACITY	Program	CEFRL
Understand: listening	Complexity, length, shades of meaning and varied media, autonomous understanding (S5) <i>Differences with the CECRL: no listening contents in S6 and S7; no mention of the delivery speed or accents</i>	C1
Understand: reading	Length and complexity but adapted difficulty, argumentative texts, autonomous understanding (S5) Variety and varied media, cursive reading of entire books, reading and analysis of literature works	C2
Speak: take part in a conversation	Argue, enter into dialogue, convince; sustained language level; adaptation to the level of language proposed <i>Differences with the CECRL: no mention of shades of meaning, of remedy skills, of fluency, of a link with the interlocutor speech</i>	C2
Speak: express oneself orally in a continuous way	Read in an expressive way, present the synthesis of a report, organized comment of a text taking into account its literary dimension <i>Differences with the CECRL: no mention of fluency, of the adaptation of style to the context, of the emphasis of the important points</i>	C1
Write	Write an argumentative text, a narrative text, comment taking into account the literary specificities, take notes, write an essay <i>Differences with the CECRL: no mention of fluency, of the adaptation of style to the context, of the writing of complex letters, reports or reviews, of the emphasis of the important points</i>	C1

The analysis summarized in table 4 shows that the European Schools aim at reaching, for French as L2, the level of the proficient user (C1 or C2³⁸).

³⁸ The proficient user C1 «can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibility for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices» (Council of Europe, 2000, p. 24).

The proficient user C2 «can understand with ease virtually everything heard or read. Can summarize information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations» (Council of Europe, 2000, p. 24).

When reading this program, several interesting elements can be found:

- The will to take into account the courses which will be taught in French, and to prepare the learning of an additional foreign language (L3).
- The underlined necessity of taking account of the classrooms national and cultural diversity. The use of play roles introducing exchanges into the classroom.
- The mention of the European portfolio, as a tool for self-assessment and for self-correction.

Other elements could have a more restricting impact:

- The quasi-total absence of reference to the learning made in the primary cycle. The understanding of differentiation as additional means outside of the classroom (specialised courses), more than as an aspect of the teacher's methodology.
- The orientation of the last two grades towards baccalaureate³⁹ more than towards the level to reach before leaving the European School.

Finally, the way in which certain methodological indicators are specified (the number of books to be studied, the grammatical notions managed at certain stages, the homework to be done, the books that are suggested, ...) gives a framework to the teaching that may as well have a positive or a negative impact, depending on the circumstances.

The three L2 offered

Are the programs at secondary level concerning the three possible L2 similar? We have compared the most global characteristics of the three programs (*see table 5*).

The German program gives most details concerning the assessment, whereas the English and French programs do so for the methodology and the contents. The differences concerning the major competences to be acquired are more significant: the German program attaches equal importance to the working methods and the knowledge as to the communication, whereas for the two other languages, the first two capacities are integrated in a much more discrete way.

³⁹ Two quotations show the place occupied by the Baccalaureate: «*The secondary section course leads up to the European Baccalaureate examination*» (p. 12); «*the preparation of the baccalaureate exam will be an opportunity for an individual oral practice*» (p. 15).

Table 5: Comparison of the main characteristics of the programs of Deutsch (German), English and Français (French) as L2 languages at secondary level

SECONDARY LEVEL	Deutsch ⁴⁰	English ⁴¹	Français ⁴²
Year of publication	1998	1997	2005
Reference to CEFRL	–	–	Yes ⁴³
Reference to specific context of the ES	Yes	Yes	Yes
Reference to primary level	Yes	Yes ⁴⁴	Yes, but very partially ⁴⁵
Competences	3, 1 of which for communication ⁴⁶	4 + combinations	Variable number
Allocation of contents	Per cycle	Per cycle	Per cycle (1 to 3) Per year (4 to 7)
Differentiation	Yes (p. 43)	Yes (p. 3-4 / 12)	Yes (p. 9 & 20)
Complementary resources	–	–	Yes
Number of pages (appendixes)	52 ⁴⁷	26	25
General purposes and objectives (common conditions)	2 (1)	1	1
Specific objectives (sub-competences)	1 +	2 (2)	2
Contents (appendix: grammatical knowledge – methods and manuals - readings)	15	5	3 (3 – 1 - 5)
Methodology (examples of lessons)	1 + 16	4 (7)	5
Assessment (detailed assessment grids)	13	3	3
Particularities	Unique document for the whole of secondary, objectives beyond communication	Insists on the integration of competences, classes given in teaching language	See text before the table

⁴⁰ *Lehrplan für das Fach Deutsch als Fremdsprache in der Sekundarstufe der Europäischen Schulen*. Approved by the Board of Governors of the European Schools at its meeting of January 27 and 28, 1998 in Brussels (reference: 1998-D-52).

⁴¹ *English L2 syllabus. Years 1-7*. Approved by the Board of Governors of the European Schools at its meeting of January 28 and 29, 1997 in Brussels (reference: 97-D-62).

⁴² *Programme de français langue 2*. Approved by the Board of Governors of the European Schools at its meeting of April 25, 26 and 27, 2005 in Luxembourg (reference: 2005-D-262-fr-3).

⁴³ Nevertheless the core of the program is not conceived according to the CEFRL model, and only four major capacities have been identified (reception/production, oral/writing) instead of five or even six by CEFRL, who adds interaction and also, in some chapters, mediation: «The language learner/user's communicative language competence is activated in the performance of the various *language activities*, involving **reception, production, interaction** or **mediation** (in particular interpreting or translating). Each of these types of activity is possible in relation to texts in oral or written form, or both.» (Council of Europe, 2005, p. 18).

⁴⁴ A special paragraph is devoted to the link between primary and secondary.

⁴⁵ Only in the appendix concerning the grammatical notions to be managed at the start of the 1st of secondary.

⁴⁶ Knowledge about the German speaking space and working methods, as well as positive attitudes are added to these four communication linked competences.

⁴⁷ The 69 pages concern the whole of the German courses at secondary, but 17 of them explicitly deal with the courses of second and third foreign language (L3 and L4).

D. SPECIALIZATION IN A VEHICULAR LANGUAGE AS L2 (6TH AND 7TH OF SECONDARY)

The programs concerning the specialization in any of the three vehicular languages are very short (the description is between half a page and two pages long) and not of recent date (they go back to 1983 for English⁴⁸ and French⁴⁹, and to 1998 for German⁵⁰). For the latter, they are in fact integrated in the global program for this language at secondary level, where they occupy two pages.

The L2 French specialization course has three objectives:

1. Improve language skills (grammar, literary texts, language levels).
2. Familiarize pupils more systematically with the civilisation of the French-speaking countries (2 or 3 topics chosen by the teacher in 6th year, two subjects common to all the ES in 7th year; every topic from a main work and from secondary ones).
3. Perfect the learning of particular techniques (introduction to work methods, individually or in a group with a view to a lecture or a more important work: media, meetings, link between literature and human sciences, ...)

The main axes for German are similar to those for French, whereas the one for English focuses more on the literature and the culture of the Anglo-Saxon world.

Note that in the 7th of secondary, all three languages foresee that the teaching is based on the study of common themes, albeit according to divergent modalities.

E. THE PROGRAMS OF L3 AND L4 AT SECONDARY LEVEL

Our analysis has been limited to the texts available on the official website of the European Schools, which seems to be incomplete. As far as the three allowed L2 are concerned, the official list of syllabuses is limited to German and English as L3 and German as L4, but without French as L3 or L4 or English as L4⁵¹.

The program of English as L3⁵² is very close to the one of English as L2: the main differences concern the omission of the paragraphs referring to the link with the primary level and to the preparation to the non-linguistic courses given in L2. At the end of the 7th year, the communication acts that the pupils should manage are nearly the same for L2 and for L3: pupils who follow English as L3 do not have to be able to listen to unique or repeated productions with diverse objectives, to speak on the basis of statistics or graphics (but should be able to do so starting from notes), to take part in group discussions or read in diverse manners (*e.g.* go through a text, etc.); on the other hand, they have to be able to appreciate literal aspects in a fiction text and produce different types of writings (formal style, informal style, instructions, ...).

⁴⁸ *English L2 syllabus. Advanced Course – Years 1-7.* Appendix IIb to the minutes of the meeting of the enlarged Board of Governors of the European Schools on December 8 and 9, 1983 in Brussels (reference: 512-D-95).

⁴⁹ *Approfondissement en français, première langue étrangère.* Approved by the Board of Governors of the European Schools at its meeting of April 25, 26 and 27, 2005 in Luxembourg (reference: 2005-D-262-fr-3).

⁵⁰ *Lehrplan für das Fach Deutsch als Fremdsprache in der Sekundarstufe der Europäischen Schulen.* Approved by the Board of Governors of the European Schools at its meeting of January 27 and 28, 1998 in Brussels (reference: 1998-D-52).

⁵¹ *Digest of Decisions of the Board of Governors of the European Schools* (reference: 2008 – D-36-1-6-1), p. 74-77.

⁵² *English L3 syllabus.* Approved by the Board of Governors of the European Schools at its meeting of January 31 and February 1 and 2, 2001 in Brussels (reference: 2001-D-373).

The instructions concerning specialized German as L3 are integrated in the global program for this language in secondary. Ten pages are devoted to this course. It is to be noted that the final examination can have as subject, at the discretion of the pupil, the spoken or the written language.

The specialised course of German as L4 (described on 6 pages) builds further on knowledge already acquired. As for the other types of German as a foreign language courses, it deals with three fields of competences: the language as such, the working methods, and the knowledge of German literature and culture.

F. MULTILINGUALISM IN THE CURRICULUM OF THE EUROPEAN SCHOOLS

A recent communication of the Commission to the European Parliament and the Council, «reasserts the commitment of the Commission in favour of multilingualism in the European Union» (2005, p. 3). To what extent does the curriculum of the European Schools contribute to the realisation of this objective?

First of all, the European Schools reserve a place to their pupils' mother tongues: most of them receive education in their mother tongue, and if it is not feasible to open a section in a given language, the pupils concerned receive – outside the basic school program – a special course in this language (*for more details, see the paragraph concerning pupils with difficulties*).

Table 6 gives an overview of the language sections per school.

Table 6: Language sections in the European Schools in December 2007; a number in italic means that the section is presently only offered at primary level

	BG	CS	DA	DE	EL	EN	ES	ET	FI	FR	GR	HU	IT	LT	LV	MT	NL	PL	PT	RO	SK	SL	SV	Total	
Alicante				1		1	1			1														4	
Bergen				1		1	1						1				1								5
Bruxelles I			1	1		1	1			1		1	1					1							8
Bruxelles II				1		1			1	1			1	<i>I</i>			1		1				1		9
Bruxelles III		<i>I</i>		1	1	1	1			1							1								7
Bruxelles IV			<i>I</i>			<i>I</i>				<i>I</i>			<i>I</i>				<i>I</i>								5
Culham				1		1				1			1				1								5
Frankfurt				1		1				1			1												4
Karlsruhe				1		1				1			1				1								5
Luxembourg I			1	1	1	1	1		1	1			1				1	1	1				1		12
Luxembourg II		<i>I</i>	<i>I</i>	<i>I</i>	<i>I</i>	<i>I</i>				<i>I</i>		<i>I</i>	<i>I</i>												8
Mol				1						1			1				1								4
München				1	1	1	1			1			1				1								7
Varese				1		1				1			1				1								5
TOTAL	0	2	4	13	4	13	6	0	2	13	0	2	12	1	0	0	10	2	2	0	0	0	2		88

Each European School, even the smallest, offers a multilingual environment to the children: the number of sections (thus of different languages) varies between 4 (Alicante, Frankfurt and Mol) and not less than 12 (Luxemburg I); for the other schools it varies between 5 and 9. Since every language for which a section has been opened can be chosen as second (L3) or third (L4) foreign language, the variety of languages is quite wide.

When looking more closely to the presence of a language in the different schools, one observes major differences: the three vehicular languages (English, French and German) are present in all 13 schools, closely followed by Italian, which is offered in 12 schools, and by Dutch, which is offered in 10 schools. Then follow Spanish (in 6 schools) and Danish and Greek (both in 4 schools), whereas the remaining languages are present in 2, 1 or even none of the schools (this is the case for 8 languages). The fact that language sections are only available at primary level in Brussels IV and Luxemburg II is due to the simple fact that these schools, which opened recently, do not offer education at secondary level yet.

The opening (or not) of a language section solely depends on the number of category I children enrolled having this language as their mother tongue (or what comes closest to that); this number is influenced by the country in which the school is situated and also by the relative importance of the language in terms of people who have it as their mother tongue, but these aspects can hardly be influenced by the authorities responsible for the school nor by the school staff. This being said, it is true that in cities with more than one European School (essentially Brussels), pupils from less populated sections are put together in the same school, in order to reach the threshold value to open a section, but even then, 8 out of the 23 official languages of the European Union do not have their own section (but still can offer some form of education in the language concerned; *see the paragraph below concerning aid to children with problems*).

G. CONTENT AND LANGUAGE INTEGRATED LEARNING (CLIL)

Pupils from the European Schools benefit first of all from a language course in which the language as such is the teaching object; but besides that, they also are taught some subjects in a foreign language, in a way comparable to teaching by immersion, or to bilingual education, or to content and language integrated learning or CLIL (Eurydice, 2006a).

Indeed, English, French and German help communicate children whose mother tongues are much more varied than these three languages, which they thus use for communication in their everyday life.

Moreover, starting from the 3rd year of primary, pupils from different language sections are grouped together for 1 ½ hour per week of so-called «European hours»⁵³ consisting of social and cultural activities and games. The official instructions concerning these hours leave a lot of freedom to the schools concerning the way these hours should be filled in⁵⁴. We have not found any formal rule that would apply to the way in which the groups should be composed, but only references to the fact that «*the European hours are one of the few subjects providing an opportunity to mix and group together pupils of different nationalities*» (page 6), and the indications concerning the composition of the groups (classes of the same or of different levels) refer to the fact that children should belong to different language sections. According to this program, «*the distribution of pupils in these two forms of grouping can also be based on L2 or a language common to all*» (page 9). If this grouping recommendation is applied, it would imply that for part of the children the language used would be their mother tongue, whereas for others, it would be their L2.

⁵³ Previously, 3 teaching periods of 45 minutes each were devoted every week to these activities. Since the revision of the timetable applicable since September 1, 2007, the time devoted to these «European hours» has been limited to two teaching periods (*Harmonised timetable. Primary*. Approved by the Board of Governors of the European Schools at its meeting of January 30 and 31, 2007 in Brussels (reference: 2006-D-246)).

⁵⁴ *European Hours in the primary cycle of the European Schools*. Approved by the Board of Governors of the European Schools at its meeting of April 24 and 25, 2001, in Alicante (reference: 2001-D-85).

At secondary, starting from the 3rd year, the courses of geography and history are taught in the first foreign language (L2), which is also used for the course of economics, as an optional subject, from the 4th year on.

H. DISCUSSION

According to a report from Eurydice (2005b), the education of languages in Europe occupies an important place in most of the European educational systems, but the objective of valorisation and exploitation of the European linguistic diversity is still met in too few cases. Indeed, in the majority of countries, English is the first foreign language taught, and the teaching of other languages like German, French, Spanish and Russian is less common. The languages of the allophone pupils are not exploited. The Eurobarometer 64.3 (TNS Opinion & Social, 2006) confirms the tendencies on the basis of responses by people over 15 years to a survey: 38% of them confirm they speak English, 14% French, 14% German, 6% Spanish, 6% Russian and 3% Italian, but none of the other languages exceeds 1%.

Let us remind that «*The aim is to build up citizens' linguistic skills until each citizen has acquired practical skills in at least two languages other than his or her mother tongue.*» (Commission of the European Communities, 2005, p. 4-5). To what extent is the curriculum of the European Schools capable to help reach this objective? A Canadian study compares the results obtained, in French, by English speaking pupils having followed different programs (Lambert, Genesee, Holobow & Chartrand, 1993). The authors identify three factors responsible for the efficiency of the programs: the time spent in learning the foreign language (the younger the age at which one starts and the more hours the language is taught, the more the results will be close to the performance of a native speaker) – the teaching method (the more the language is used as a means of teaching, the better the results will be) – the occasions to interact with French speaking children in the same class.

Several aspects of the curriculum of the European Schools could contribute to reaching the objective of the European Commission:

- Starting with the teaching of a foreign language at an early age, provided several essential conditions are met to help the children «*to acquire, over time, a phonetic system, a grammar and possibly other language components that are, if not identical, at least comparable to those of native speakers*» (Johnstone, 2002, p. 21).
- The plurilingual character of the environment assuring the «*immediate usefulness*» of what has been learned, the importance of which has been shown by Beatens Beardsmore (1988), followed by Housen (2002): the pupils use, in everyday life, the so-called vehicular language in their exchanges with other children ⁵⁵.

⁵⁵ Beatens Beardsmore (1988) has compared 13-year-old children, some of whom had been in contact with French for about 4,500 hours in a Canadian immersion program, while others had been in contact during about 1,300 hours in a class environment, notably in one of the European Schools in Brussels. The results of the latter are at least equal, if not superior, to the first ones. The author suggests that the efficiency of the European School is explained by several factors, which he summarizes as «*immediate usefulness*»: for the children of the European School having different mother tongues, French serves as «*lingua franca*» within the European School itself, but also outside it, since they live in an environment that is predominantly French speaking. These results should be interpreted with caution, given non identified differences between the two populations, but they seem to indicate the relevance and the importance awarded by the European Schools to the heterogeneous character of the populations and to the contacts between languages and cultures.

- The teaching by native speakers, who guarantee the quality of the language notably concerning the accent and the tonality, an important condition, according to Johnstone (2002) for the efficiency of the learning.
- The teaching of some courses in the vehicular language, a simplified form of bilingual education, the efficiency of which is widely recognized (see Eurydice, 2006a, for information concerning the use of this approach in Europe, and also Hamers and Blanc, for a synthesis between the different studies on the efficiency of immersion approaches).
- The high number of hours devoted to language courses, the importance of which has been stressed regularly since Carroll (1963).

On the other hand, the analysis has shown two types of limits of the system:

- A certain lack of coherence between the programs of primary and secondary concerning certain vehicular languages. Making sure that the programs at secondary level take into account the skills acquired at primary level would increase the efficiency of the language teaching⁵⁶: according to Johnstone (2002), one of the key conditions for the efficiency of language teaching starting at an early age is «*instaurer des processus et des structures pour assurer la continuité de l'apprentissage entre le primaire et le secondaire*» (p. 22). Also the Council of Europe has insisted, on several occasions, on the importance of such a «*continuity*». It recommends more specifically to «*make sure that the pupils benefit from a systematic continuity in the teaching of languages between the different educational cycles*» (Council of Europe, 1998). It is, however, important not to confuse continuity and identity: the research concerning the learning coherence has shown that it is quite possible to vary the priorities according to the age of the pupils or the progress they make in the foreign language.
- The nearly complete absence of reference towards the Common European Framework of Reference for Languages, realised with the support of the Council of Europe. Given the fact that this CEFRL has been conceived by specialists and is more and more used in the national educational systems, it is somewhat illogical that only one single program examined in this study is using it as a basis for determining the competences to be developed. The other programs would no doubt gain from an update in line with the CEFRL⁵⁷ ... which would, by the way, also allow an easier verification of insuring the continuity between the school levels.

IV. THE EUROPEAN HOURS (PRIMARY LEVEL)

The curriculum of the European Schools foresaw, in the 3rd, 4th and 5th years of primary, three teaching periods of 45 minutes (two of which would have to be consecutive) per week, to be devoted to a large and open choice of activities with a non disciplinary character, and that forms one of the specificities of the European Schools. Since 2007, the time has been reduced to only two teaching periods. These activities have the following general objectives:

⁵⁶ At least for the children who attend a European School during the last years of primary and the first years of secondary, which is the large majority, since about $\frac{3}{4}$ of the respondents have studied at least 8 years at a European School (see page 55).

⁵⁷ Most of the programs have last been updated and published before the publication of the CEFRL, which explains why they do not refer to it.

- *«The development of a European identity/spirit based on pupils' own cultural identity*
- *The development of willingness and ability to pursue intercultural objectives, such as tolerance, co-operation, communication and respect for and acceptance of others and their differences, in a European context*
- *Addressing themes set in a context of interculturality and communication*
- *Heightening of the European dimension idea*
- *Opportunities for pupils to get to know, like, respect and help one another*
- *Personal and social development of pupils*
- *Promotion of a spirit of initiative, autonomy and solidarity among pupils.»*⁵⁸

A. THE PROGRAM

The «program» of the European hours is primarily characterised by its openness: it gives orientations and determines a framework, rather than specifying the contents to be treated or the activities to be taken up.

Table 7: Analysis of the program of the European hours

PRIMARY	
Year of publication	2001
Reference to the specific context of the European Schools	Yes
Reference to the secondary level	No
Competences	–
Contents specified by school year	No
Differentiation (in function of the origin of the pupils)	Yes
Complementary resources	No
Number of pages	10 pages
Aims	1 page
Objectives	1/2 page
Contents	–
Methodology (timetable, role of the school, regrouping of pupils, local plan, coordination)	3 pages
Assessment	1 page
Particularities	Frame in which the program is embedded. Local plan.

⁵⁸ *European hours in the primary cycle of the European Schools*. Approved by the Board of Governors of the European Schools at its meeting of April 24 and 25, 2001 in Alicante (Reference: 2001-D-85), p. 7.

B. PARTICULARITIES

Two special characteristics of this course have to be highlighted: the constitution of groups and its grounding on a local plan.

For the European hours, pupils from different classes have to be regrouped in a perspective of openness and transversality. Different ways of regrouping them are proposed: a so-called horizontal regrouping (classes of the same level but of different language sections), vertical regrouping (classes of different levels and of different language sections); a regrouping based on the second language, or a language common to all, ...

A local plan, defined per each European School separately, gives concrete general objectives for one or several unifying themes with an intercultural character, which are further detailed into concrete realizations, adapted to the context and the resources available. By way of example, the program mentions a trip in Europe, music from all over the world, fairy tales from all over Europe, European cultural heritage, etc. In each school, the assistant director charges a coordinator with the setting up and the realization of this local plan.

C. DISCUSSION

The European hours are of a unique nature. Even if the organisation of early-learning activities adapted to the context is recommended in several national school programs, the regrouping as foreseen in the European Schools is very specific. This regrouping can offer – depending on the choices made in each school – an excellent opportunity for contacts between children belonging to different cultures, and obliges them to use a language other than their mother tongue in a functional context.

The open and «tailor made» character of the European hours is certainly also a plus, but the fact that sport events cannot be part of them draws attention on the possible lacks of understanding or drifts.

Obviously, the concrete way in which these European hours are filled in, the themes that are discussed, the possible difficulties encountered, etc. are an interesting subject to study, but this falls outside the scope of this survey.

V. SCIENTIFIC EDUCATION

One of the major objectives of the European Schools, next in line only to the knowledge of languages, concerns the courses of science⁵⁹. The way in which they are organised all along the curriculum will be dealt with in the following paragraphs.

⁵⁹ The European Schools, p. 9.

A. ORGANISATION OF THE SCIENCE COURSES

During the whole primary, scientific initiation is integrated to human sciences in a subject named «Discovery of the world».

PRIMARY LEVEL	1 st and 2 nd year	3 rd , 4 th and 5 th year
Discovery of the world	2 × 30 minutes New timetable since 2007-2008: 3 × 30 minutes	4 × 45 minutes New timetable: same
Total number of teaching hours (60 minutes) per week	25 ½	27 ¼

During the first three years of secondary, sciences continue to be taught in the form of one integrated course (biology, physics and chemistry) during four periods per week.

LOWER SECONDARY	1 st year Period of 45 min.	2 nd year Period of 45 min.	3 rd year Period of 45 min.
Integrated course	4	4	4
Total number of periods (45 minutes) per week	32	33 or 34	31, 33 or 35

Then, three compulsory courses are aimed at pupils of the 4th and the 5th year, each one during two periods per week: biology, chemistry and physics.

Finally, in the two last years of secondary, biology remains compulsory during 2 periods per week, unless chemistry or physics are chosen as an optional course, during four periods per week (also biology, as an optional specialised course, can be chosen during four periods per week). Laboratory practice is offered as a complementary activity (two periods for each of the science courses).

HIGHER SECONDARY	4 th and 5 th year Compulsory courses # of periods (45 ')	6 th and 7 th year Compulsory courses # of periods (45 ')	6 th and 7 th year Optional courses # of periods (45 ')	6 th and 7 th year Complementary courses # of periods (45 ')
Biology	2	2	4	Laboratory 2
Chemistry	2	—	4	Laboratory 2
Physics	2	—	4	Laboratory 2
Periods per week	Between 31 and 35 periods			

Let's remind that, for the whole of the secondary level, and compared to the national education systems in the EU, the compulsory courses of sciences already rank the European Schools at the 8th position on 34, which is very high. The optional and complementary courses during the final two years allow pupils to follow a program that is particularly rich in sciences (up to 17 periods per week).

In the following paragraphs, we shall analyse the curriculum of the scientific courses per school level.

B. AT PRIMARY LEVEL: «DISCOVERY OF THE WORLD»

The final outcome of these courses should be «to create a responsible individual, a future European citizen, an informed consumer; someone who is aware of human rights, balance, heritage, openness to others and to the wider world».⁶⁰

The main aims give more details in this respect:

1. acquire knowledge and understanding of themselves and the wider world,
2. rely on first-hand experience and research in order to progress outwards from their own locality, compare it with other environments such as their country of origin and move towards a global perspective,
3. develop scientific methods and thinking as well as biological, technological, geographical, historical and socio-cultural approaches,
4. use a variety of reference material and mathematical representations and learn to use an increasingly precise language,
5. act and behave in a way that is consistent with the knowledge acquired, respecting the balance of nature and society, taking points of view and cultural diversity into account, developing citizenship skills and becoming good Europeans,
6. realize that the child can play an active part in its present surroundings and in tomorrow's world.

The particular context of the European Schools is well present in the second objective (compare local realities with the country of origin) and particularly in the fifth objective (take into account the cultural diversity; develop the European citizenship and spirit).

PRIMARY LEVEL	Discovery of the world
Year of publication	2002
Contents per school year	Yes
Differentiation	—
Reference to the specific context of the ES	Yes
Reference to the nursery level	Yes
Reference to the secondary level	Yes
Complementary resources	Information documents
Number of pages	13 pages
Aims	½ page
General objectives	1 page
Contents	2 pages

⁶⁰ *Program Discovery of the world (primary cycle)*. Approved by the Board of Governors of the European Schools at its meeting on May 6, 7 and 8, 2003 in Shannon (reference: 2002-D-7710-en-3).

Didactic and pedagogic principles	1 page
Methodology	1 page
Assessment	1 page
Competences	Competence scales
Competence levels (to be reached at end of primary)	
Particularities	Communication tool with the parents

The core of the program is composed of themes allowing the development of different types of knowledge in the broadest sense. Each theme allows treating several aspects corresponding to different **areas** of the discovery of the world:

- o exploring the living world (biology)
- o investigating the physical sciences and technology
- o finding one's place in space (geography)
- o locating oneself in time (history)
- o finding one's role in society (socio-cultural).

«In order to make the ever-changing world comprehensible, each aspect will be developed progressively, moving from perception to mental constructs and from information to education, and will include

- o representations: recording the units studied
- o transformations: becoming aware that change is ever present
- o interactions: becoming aware that units interrelate
- o interventions: understanding how human beings affect processes
- o responsibilities: judging the value and consequences of these interventions.»⁶¹

A progression of the contents from the first to the fifth year is presented in the form of themes suggested for every domain.

The pupils are expected to become active participants in their own learning. The methodological principle corresponds to problem solving, with time and place foreseen for trial and error, and the type of representation is an integral part of the approach: «Using this approach, [...] pupils will have the chance to test the usefulness of the models and representations used, and will be able to apply them in increasingly complex situations».⁶²

The teacher has to convert the themes in problems, make them concrete starting from local opportunities, treat them in didactic units (question, approach, response, educational conclusion), keep trace and evaluate the assimilation of the taught approaches and notions.

⁶¹ Ibid., p. 2.

⁶² Ibid., p. 4.

Each teacher is influenced by local particularities, and makes thematic and didactic choices. However, the objectives of the program are made concrete through competence grills in order to assure a convergence between all the language sections and all the European Schools.

C. OBSERVATION CYCLE: INTEGRATED SCIENCE COURSE

SECONDARY LEVEL: 1 st , 2 nd and 3 rd years	
Year of publication	2004
Number of pages	12
Contents per school year	Yes
Differentiation	No
Reference to the specific context	No
Reference to the primary level	No
Reference to the higher years of secondary	Yes: reported prerequisites
Complementary resources	Experience sheets on the Internet
Aims	½ page
Objectives	½ page
Contents	6 pages
Methodology	1 page
Assessment	1 page
Competences	–
Particularities	Worksheets

A working group set up in 2003 has developed **worksheets** in order to help the teachers prepare the course and the practical tasks. These teachers may have followed in their home country different types of courses, and cannot all be specialists in physics, chemistry and biology. In order to preserve the «integrated» aspect of the program, one single teacher should teach all periods in a particular year, and, in order to achieve a balance, teachers from the three sciences should contribute to teaching over the three years so that the children have specialists in each of the three sciences. These work sheets form a flexible tool and are accessible to the teachers on the Internet.

This course is considered to be an introduction to the study of science in the 4th and 5th years. Pupils have to learn basic techniques, scientific instruments, security rules, and how to analyse data. The subjects treated are aimed first of all at capturing the interest of the pupils, and the courses should be laboratory-based, as «such activities also provide for bringing the senses to bear on the phenomena, which should engender more complete and more pleasurable understanding.»⁶³

A very important aspect is the emphasis placed upon contemporary issues, «such as the protection of the natural environment, the conservation of resources and the pollution of the environment by human agency. Pupils should also be introduced to the need to discuss

⁶³ *Integrated science syllabus*. Approved by the Board of Governors of the European Schools in its meeting in Brussels on 1 and 2 February 2005. Ref: 2004-D-4010-en-3, Preamble, p. 2.

ecological questions concerned with the implications of technological and scientific progress, and the opportunities and dangers these present for society and for the individual⁶⁴».

Specific themes are foreseen per school year (measurement, air, classification in everyday life, water and solutions,...) with material, ideas and experiments, and a specification of the prerequisites for the course in the fourth year.

Concerning the methodology, the pedagogical approach has to be a «classical» one, adapted to the level and capabilities of the young pupils, with experiments in the classroom, the production of scientific reports with the observations and the results obtained, and, whenever necessary, the concept of additional experiments. The course has to be given most of the time in a laboratory, and two of the four weekly periods have to be consecutive.

The course is not merely about the acquisition of facts and of experimental results, but also about the ability to plan and execute experiments and to test hypotheses. Pupils should become familiar with an important basic notion: the careful observation of natural processes and of experiments, and the application of disciplined thought to these, is how scientific understanding begins and develops. This crucial methodological aspect is emphasized again in the general introduction «Throughout the course, teachers should exploit opportunities to develop an understanding on how «science is done». This theme should include discussions concerning desire for accuracy and precision (but their limitations), the design of investigations, the handling, presentation and interpretation of data and evidence.»⁶⁵

A recent study of Eurydice (2006b) presents a comparative analysis of the official guidelines and recommendations concerning the teaching of sciences. The data apply to the school year 2004-2005, for the primary level (CITE 1) and the lower level of secondary (CITE 2). Chapter III of that study contains information on the approaches proposed in the school programs of science, on the objectives pursued, and on the classroom activities. The authors have treated the following aspects: the presence of references to the contextual dimensions of science (history and present-day problems), the experiments, the ICT and the communication.

The reference to the history of science is important for the perception pupils may have of the nature of science: it is not something fixed, but something under construction. This aspect seems indissociable from the teaching of the scientific approach.

⁶⁴ Ibid., Preamble, point 1.2.

⁶⁵ Ibid., p. 1.

**Comparison of the program of science of the European Schools with the data from Eurydice
(32 school systems)**

Characteristics of the syllabus of science	Primary		Lower level of secondary	
	European Schools	Schools of the EU	European Schools	Schools of the EU
Integrated course	yes	all but 1	yes	in 7 systems
Reference to the history of science	no	in 10 programs	no	in 21 programs
Reference to contemporary societal issues	yes	all but 1	yes	all

The European Schools stand out by not making reference to the history of science; they are not alone in this respect at primary level, but this situation is more seldom encountered at the lower level of secondary. At the opposite, references to contemporary issues are clearly emphasized in primary and lower secondary curriculum.

The programs can be presented in different ways, and hence the tables prepared by Eurydice (2006b) combine the specific activities to be performed by the pupils and the learning outcomes to be achieved. The interaction between these two aspects must be considered with caution, as the authors say: «It seems clear that the absence of prescribed activities should not be taken to mean that appropriate activities are not carried out to meet an expressed objective. The opposite is also true: the absence of an explicit learning outcome does not mean that there is no intended objective if these are only expressed in terms of learning activities that must be carried out in schools.» (Eurydice, 2006b, p. 34).

The importance of practical work in the teaching of sciences is crucial. It is present in the majority of the programs of the lower secondary, but less in those of primary, whereas the European Schools do foresee them in the programs for both levels.

**Practical work in the program of science at CITE 1 and CITE 2 level. School year 2004/2005.
Total number of analysed programs = 32. Activities and objectives**

	CITE 1 in EU	CITE 1 in European Schools	CITE 2 in EU	CITE 2 in European Schools
1. Teacher demonstrations	21	–	25	–
2. Carrying out experiments following a pre-defined protocol	25	–	27	yes
3. <i>Ability to follow experimental instructions accurately</i>	19	–	25	yes
4. Making observations	29	yes	31	yes
5. <i>Ability to make scientific observations</i>	28	yes	29	yes
6. <i>Ability to select and use appropriate apparatus and equipment</i>	20	yes	27	yes
7. <i>Ability to propose and discuss experimental protocols in response to defined objectives</i>	16	yes	28	yes
8. Proposing experimental protocols in response to defined objectives	15	yes	26	yes
9. Verifying a scientific law through experiment	13	–	26	yes
10. Formulating and testing hypotheses	25	yes	30	yes
11. Science-related project work	16	yes	24	yes

The use of ICT is not restricted to the science courses, but they appear in most programs. Applications specific to science (encoding and presenting results; simulations) are the least frequent, especially at primary level, whereas research has shown the importance of organizing such activities «in that it encourages pupils to engage in theoretical activity and may help them form cognitive associations between theory and experience» (Eurydice, 2006b, p. 37). No reference to ICT is made, however, in the syllabus «Discovery of the world» of the primary level of the European Schools.

**Use of Information and Communication Technologies in the science programs (CITE 1 and 2).
School year 2004/2005. Total number of analysed programs = 32. Activities and objectives**

	CITE 1 in EU	CITE 1 in European Schools	CITE 2 in EU	CITE 2 in European Schools
1. Logging and presenting experimental results and data	17	–	26	yes
2. Simulation	8	–	20	–
3. Researching the Internet for data	20	–	27	yes
4. Communicating with other pupils	19	–	23	–
5. <i>Ability to use ICT (e.g. for recording data)</i>	23	–	28	yes

The science programs foresee an important place for communication. Nearly everywhere pupils discuss scientific subjects in relation with problems of society or questions of everyday life already in primary. Rather often, the discussions also concern the search for information. These aspects are also incorporated in the programs of the European Schools.

**Place of the communication in the programs of science (CITE 1 and 2). School year 2004/2005.
Total number of programs = 32. Activities and objectives**

	CITE 1 in EU	CITE 1 in European Schools	CITE 2 in EU	CITE 2 in European Schools
1. Engaging in discussion in relation to science in society and in every day life	26	yes	29	yes
2. Engaging in discussion in relation to researching information	21	–	29	yes
3. Engaging in discussion in relation to experiments	26	–	28	yes
4. Ability to present and communicate procedures and results	24	yes	31	yes
5. Presenting and communicating procedures and results	25	yes	29	yes
6. Presenting and communicating information	23	yes	28	yes
7. Communicating with other pupils using information technology	19	–	23	–

In short, as regards communication, the European Schools do rather well, apart seemingly from communicating with other pupils using information technology, but maybe these activities are mentioned elsewhere.

D. PROGRAM OF SCIENCE FOR THE 4TH AND 5TH YEAR

SECONDARY LEVEL: 4 th and 5 th year	Physics	Biology	Chemistry
Year of publication	1996	2002	2004
Number of pages (incl. appendixes)	5 + 21 (2)	26	22
Contents per school year	Yes	Yes	Yes
Differentiation	Sometimes, for «good pupils»	–	–
Reference to specific context	No	–	–
Reference to previous years	Yes	–	–
Reference to higher years of secondary	Yes	yes	yes
Complementary resources	–	–	–
Aims	½ page	⅓ page	2 lines
Objectives	3 pages	1 page	–
Contents	21 pages	4 pages	14 + 8
Methodology	1 page	–	–
Assessment	3 pages	1 page	2 lines
Competences	–	–	–
Particularities	assessment	assessment	–

Physics

The physics course for the 4th and 5th year is presented as a development of certain themes already dealt with in previous years, constituting the final program of physics for most pupils, but an intermediate program only for those who will opt for a specialization in physics in the 6th and 7th year.

The general objectives include among others the development of the capacity for judging, with full knowledge, «scientific data» presented as a support of commercial publicity, the sensibilisation of pupils to points common to all sciences, regarding the methodology as well as the subjects, and, if sufficient time is left, drawing the attention of pupils on the historical evolution of physics.

The methodological aspects concern the use of experimental approaches, like the habit of observation, the setting up of experiments, the data collection, the communication of the results, the formulation and the tests of hypotheses.

For the assessment, a harmonised examination is foreseen in the 5th year. The questions are chosen and approved by all the science teachers from all the different language sections, and the accent should be put upon the application of principles rather than on the reproduction of learned processes, keeping in mind that in 4th and 5th years, taking this subject is compulsory for everybody: «Examinations should therefore reflect the general nature of this population, and questions will need to be cast so that the bulk of the examination is of a fairly basic nature. This is not to say that the course needs to avoid treating and discussing more interesting material, simply that the examination should not contain too many questions or sections of questions

dedicated to the more refined and sophisticated applications».⁶⁶ Two pages contain examples of questions and their ranking, ranging from simple recall to creative thought.

The program is structured in chapters (mechanics, movement, electricity, nuclear physics, etc.), one year after the other, with an indication of the number of periods to be foreseen. The column «avenues of approach» gives suggestions for observations and experiments.

Biology

One single document contains the biology program for the 4th till the 7th year⁶⁷. The first part is dedicated to the courses of the 4th and the 5th years.

The general objectives of this compulsory course are as follows:

- to develop an interest in living organisms and a curiosity about ourselves and our environment,
- to promote respect and **responsibility** for our environment,
- to propose a multidisciplinary approach to biology showing the connections with other sciences and integrating the historical, social, ethical, cultural and technological influences that place biology into its present social context,
- to appreciate the importance of the scientific process in the study of biology,
- to develop objectivity in the study of living organisms, to stimulate curiosity and a desire to know more so as to prepare the students for more advanced courses.

Concerning the methodology, the aim is among other things to develop the ability to formulate and exploit hypotheses, to show the importance of the experimental approach, and to develop the sense of observation, perseverance and concentration.

For the assessment, the guidelines are similar to those described *supra* for physics, and for the same reasons: «It will be necessary, in years 4 and 5, to keep in mind that it is compulsory for everyone to take this subject, and examinations should therefore reflect the non specialized nature of students, and questions will need to be written so that the bulk of the examination is of a fairly basic nature».

A list of ten themes is proposed for every year, with an indication of the minimum time that has to be devoted to it. Some suggestions for activities are added.

Chemistry

As for biology, one single document contains the program for chemistry for the 4th till the 7th year⁶⁸. The first part is devoted to the courses for the 4th and the 5th years. In the preamble it is stated that the order of the modules that compose the program is not fixed. As far as the objectives are concerned, the text is short but pertinent: the teacher is encouraged to include «the

⁶⁶ *Physics program, 4th and 5th years.* Approved by the Board of Governors of the European Schools at its meeting of April 23 and 24, 1996 in London. Ref: 96-EN-164, p. 4.

⁶⁷ *Biology program 4th-7th years.* Approved by the Board of Governors of the European Schools at its meeting of May 22 et 23, 2002 in Nice. Ref: 2002-EN-66.

⁶⁸ *Chemistry syllabus (Years 4, 5, 6 & 7).* Approved by the Board of Governors of the European Schools at its meeting of April 28, 29 and 30, 2004 in Parme (Ref: 2004-D-72-en-3).

everyday applications of chemistry and experimental work». The subjects are presented in the form of modules, and the teacher has to apply the contents under the heading «Comments»: experimental study to be performed, reference towards everyday life, health risks, ... A column with suggestions contains complements the teacher is free to use or not.

A harmonised assessment is foreseen at the end of 5th year, on subjects treated during the second semester. A close and regular coordination between the teachers is essential in this respect. Contrary to what we have seen for physics and biology, no guidelines for the questions of the examinations are given for chemistry.

E. PROGRAMS FOR THE SCIENCE COURSES IN THE 6TH AND 7TH YEARS

SECONDARY LEVEL 6 th and 7 th years	Biology 2 periods	Biology 4 periods	Chemistry 4 periods
Year of publication	2002	2002	2004
Number of pages (including appendixes)	3 (6)	9	22
Contents per school year	Yes	Yes	Yes
Differentiation	Yes	–	–
Reference to specific context	–	–	–
Reference to previous years	–	–	yes
Reference to further studies	yes	Yes	–
Complementary resources	–	–	–
Aims	1/3 page	1/3 page	–
Objective	2/3 page	1/3 page	–
Contents	3 pages	5 pages	9 + 13
Methodology	–	1/2 page: various approaches including simulations	–
Assessment	2 pages	1 page 1/2	–
Competences	–	–	–
Particularities	–	Translation of questions of the Bac.: respect of the sense of the questions	–

NB: for Physics: no syllabus could be found on the website of the Office of the Secretary General of the European Schools.

Biology – 2 periods

This course of two periods is the only compulsory science course in the two final years of secondary. The program mentions that the pupils following this course have a more literary, linguistic or artistic bias, although some may have chosen it as a complement to physics or chemistry. So the course must be sufficiently flexible for the teacher to adjust the level to fit the group.

The aims are related to the attitude towards biology, and include:

- to put biology into a social context, integrating ethical, cultural and technological issues
- to stimulate a respect for the environment and highlight our responsibility for the environment
- to show the importance of the scientific method in the study of biology and show the connection between biology and other disciplines
- to develop objectivity and critical analysis
- to prepare students for further studies in scientific subjects or in other fields that require an understanding of biological principles (e.g. journalism, law, psychology).

The contents are concentrated on the themes of man in its environment (*e.g.* impact of man on nature: treatment and recycling of waste, biodiversity, air pollution) and on the evolution of life.

Biology – 4 periods

This course of four periods aims at preparing the pupils to tertiary studies in the field of science. It concentrates on the application of scientific methods in the study of biological processes through the use of the principles of scientific experiments.

In the introduction, the course is presented as reflecting the modern face of biology and the underlying of molecular biology and ecology is stressed, as well as the importance of biological concepts in everyday life. Teachers should try to reflect this in their teaching, while at the same time reserving time for traditional aspects.

For the methodology, various approaches are recommended: practical work, lectures, use of ICT for simulations, talks by students, discussions, visits to research institutes, museums, exhibitions, use of media articles, etc.

The skills to be developed are the following: to be able

- to transfer knowledge from one situation to another
- to understand articles from newspapers and scientific journals and extract the important points
- to follow both written and oral instructions
- to make precise observations and to accurately record results
- to analyse and interpret data
- to communicate effectively in written and oral reports.

The contents are detailed per theme and some suggestions are included.

Regarding the assessment, the guidelines specify that translations of questions should respect very strictly the sense of the questions.

Chemistry

The contents for the 6th and 7th years follow the ones for the 4th and 5th years, with as only comment that the knowledge of the programs of the 4th and 5th years are a prerequisite. It can reasonably be supposed that the openness toward chemistry in everyday life and the importance of performing experiments remain valid.

F. DISCUSSION

The scientific education of young people is of paramount interest for our society in which science and technology are important job creating and sustaining sectors. On the other hand, numerous studies have shown a declining interest of young people for sciences and mathematics. Consequently one must fear for the innovative capacity and the quality of the research of our society. Besides, within the population in general, new competences become essential in a society that is becoming more and more dependent on the use of knowledge, where every citizen must have the possibility to develop a critical mind and a scientific reasoning allowing him or her to make the right choices with the fullest of knowledge. In this way, science becomes so to speak an element of the general culture, object for debate and communication.

1. Timetable volume

In secondary, the timetable reserves a large place to sciences, and the programs of the two final years allow interested pupils to take advantage of specialized courses and complementary laboratory work. Furthermore, all the pupils had the same path regarding sciences until S5, with 6 periods in S4 and S5.

2. Discovery of the world – primary level

In a report of the OECD dated 2006, it is stressed that positive contacts with sciences and technologies at an early age can have a durable impact. Negative experiences at school, due to uninteresting contents or a bad pedagogical approach can be very detrimental to future choices. If the children have, at primary level, a natural curiosity for science and technology, experts agree that a great number of teachers are insufficiently qualified or at ease with scientific disciplines to make practical demonstrations (OECD, 2006a, p. 11). They often opt for a traditional approach with which they feel more familiar and at ease, thus avoiding methods based on research that would require an integrated and more profound conception of science. The accent is laid more on learning by heart than on understanding, all the more since the available time offers little room for sophisticated experiments.

The programs of the European Schools have opted for a method based on problem solving, leaving room for trial and error. This program is completely in line with the recommendations of the experts of the High Level Group for the teaching of sciences, who defend approaches based on inquiry (IBSE – Inquiry based science education) as being the most successful (Csermely, Jorde, Lenzen & Wallberg-Henrikson, 2007, p. 2).

3. Integrated science syllabus during observation cycle at secondary level

During the first cycle of secondary, according to the experts of the OECD, pupils need to feel the importance that the scientific disciplines have for society and for their own world. Unfortunately, the knowledge taught is often without relation to leading edge science or with the most recent applications of science and technologies, which may lead to a lessening of the

interest science enjoyed at the early age⁶⁹. These experts recommend concentrating the education on the scientific contents and methods rather than on the simple memorizing of information. One of the means that might be helpful to teachers would be to set up and strengthen networks of teachers, from primary to secondary level. This approach is also promoted by the authors of the report *L'enseignement scientifique aujourd'hui: une pédagogie renouvelée pour l'avenir de l'Europe*.

The worksheets to help the teachers to prepare practicals are without doubt a good idea, all the more since the major part of the courses has to be taught in a laboratory. However, one aspect that is set forth in the execution of experiments seems a bit outdated: «The experimental activities also provide for bringing the senses to bear on the phenomena, which should engender more complete and more pleasurable understanding.»⁷⁰

4. First compulsory courses of biology, chemistry and physics in 4th and 5th years of secondary

Despite the difficulties in keeping up the motivation for science in pupils who are sometimes convinced they will never need it again, the European Schools organize in 4th and 5th years compulsory courses of 6 periods. This is perfectly in line with the recommendation of the group presided by J. Gago (European Commission, 2004) who stresses the need to avoid elitist politics in the field of sciences, by looking for an equilibrium to promote excellence in science. Countries where young people know science well and that have a lot of scientists, generally apply politics aiming at a general increase of the scientific level of all pupils.

5. Differentiation

The possibility of differentiation is mentioned explicitly only once in all the programs, by foreseeing interesting extensions in physics if the teacher finds him/herself in front of a «good» class.

6. Competences

Competence grids exist for the course of Discovery of the world at primary. Carrying on with the development of competences grids for all the science programs would allow a harmonization of the difficulty level of courses and assessments.

7. Historical context

References towards the historical context of the building up of scientific knowledge, which seems essential for the understanding of the nature of scientific knowledge, are absent from all the syllabi, with two minor exceptions: in physics (but only if time is available) and in biology 4 periods.

8. Aims pursued

A dimension that is present in all programs concerns the forming of a responsible individual, a future European citizen, somebody thoughtful in his or her everyday life, and who is taking part in debates on society.

⁶⁹ *Evolution of Student Interest in Science and Technology Studies Policy Report*. OECD, 2006, p. 11.

⁷⁰ *Integrated science syllabus*. Approved by the Board of Governors of the European Schools at its meeting on 1 and 2 February, 2005 in Brussels. Ref: 2004-D-4010-en-3, Preamble, p. 2.

9. Understanding of the way in which science builds up – experimental approach

This seems to be an objective present in all programs, but on the other hand, as the experts from the High Level Group for the education of sciences say, even if professionals generally agree that pedagogical methods based on inquiry (*IBSE – Inquiry based science education*) are more successful, the practice shows that, in most European countries, these methods are not implemented (European Commission, 2007). Do the European Schools escape from the same fatality?

10. What about girls?

Women are generally much under-represented in scientific directions, particularly in ICT and in engineering. In a report by the OECD (2006a), it is underlined that the choice of a discipline can be influenced by negative pressure and by external expectations the female students are confronted with. This explains why this report recommends some reforms in the training of teachers, in the programs, and in the role models: «It is necessary to modify the learning conditions and methods so that the female students will find them more attractive. By way of example, it would be useful to insist on the benefits that sciences and technologies bring to society» (OECD, 2006a, p. 9). There is no comment in this sense in the programs analyzed. Have young girls trained in the European Schools been able to avoid the stereotypes likely to keep them away from scientific education?

VI. PUPILS HAVING LEARNING DIFFICULTIES

The European Parliament asks that the education given by the European Schools be more diversified and take more and more account of the learning difficulties of some of their pupils⁷¹. Let's underline that such measures are all the more necessary since the European Schools offer only one single orientation, called general, leading to the European Baccalaureate, and that, according to the general guidelines of the European Schools⁷², «A pupil shall not be allowed to repeat the same year in the secondary cycle twice.» (article 62).

The measures taken in favour of pupils with difficulties, some of which have existed for a long time, have been updated and systematized in these last years:

- learning supports in the face of different types of problems have been updated, for the secondary level, in 2005, and for the primary level, in 2007
- the measures relating to pupils with special educational needs (SEN) have been updated in 2005
- the measures towards support in mother tongue education for pupils who are in a section that does not correspond to their mother tongue (SWALS = students without a language section [in the school where they are enrolled]) date from 2004.

The prime objective of these support measures – at least of the two first ones – is the integration according to the following lines as described in the document concerning the pupils with special educational needs (SEN): «*The integration involves allowing pupils with learning difficulties or special educational needs (SEN) to develop and progress in the normal year groups to which*

⁷¹ *Earning support in the secondary. General policy.* Approved by the Board of Governors of the European Schools at its meeting on February 1 and 2, 2005 in Brussels, p. 2 (Reference: 2004-D-4110-en-3).

⁷² *General rules of the European Schools.* Approved by the Board of Governors of the European Schools by written procedure 2008/02 on February 28, 2008 (Reference: 2007-D-4010-en-3).

they belong, with appropriate support, provided that their aptitudes allow them to do so, in the interest of their personal development» (p. 6).

A. LEARNING SUPPORT

A first type of support, called learning support (LS), is described in two different documents, one for the nursery and primary cycles⁷³, and one for the secondary⁷⁴. This support consists in providing a specialized form of education to pupils who, for whatever reason and at whatever point of time in their curriculum, have difficulties that cannot be met by their teacher (alone).

Pupils who can benefit from learning support

In the nursery and primary cycles, learning support should be considered for *«pupils:*

- *who make little or no progress despite differentiated teaching by the class teacher (including gifted children)*
- *who are assessed at level 1 for some competences in the Carnet scolaire*
- *whose social and/or behavioural skills hinder the learning process*
- *whose learning strategies are not appropriate.»*

In the secondary, learning support is given to pupils *«who are assumed to access the whole program and are able to make progress within the European school curriculum»* (p. 3), but nevertheless encounter specific difficulties with certain learning aspects. Note that this support concerns all the pupils who may need it for all subjects in the years 1 to 5 of secondary, but that it is limited to only exceptional cases in the 6th and 7th years. This seems to suggest that some pupils are considered unfit to make progress within the European school (curriculum), and hence have no other option but to leave the system.

LS measures

The learning support is based on teamwork implicating the assistant director, a coordinator of these support measures, the teachers of the subjects concerned or the class teacher, the teachers who actually provide the support, as well as the parents and other people whose support might seem useful.

The official guidelines insist on the flexibility of the timetable and other aspects, depending on the groups and schools concerned, and also on the importance to work in partnership with the parents and to take account of the continuity between school levels.

In the secondary, the learning support measures include *«the normal range of differentiated teaching approaches employed by all teachers as well as more specialized support given by teachers who undertake learning support»* (p. 3).

The learning support is provided by two types of professionals whose interventions complete those of the basic persons: teachers charged with providing learning support and their coordinators.

⁷³ *Earning support in the nursery and primary cycles.* Approved by the Board of Governors of the European Schools at its meeting of January 30 and 31, 2007 in Brussels (Reference: 2006-D-262-en-4).

⁷⁴ *Earning support in the secondary. General policy.* Approved by the Board of Governors of the European Schools at its meeting of February 1 and 2, 2005 in Brussels (Reference: 2004-D-4110-en-3).

Teachers in charge of learning support observe and assess, decide together with the other teachers which offer would be the most appropriate, inform them about the resources available, cooperate with them in informing the parents, and keep traces of their interventions. It's also their responsibility to assure the continuity between primary and secondary. At nursery and primary level, they are normally expected to possess additional qualifications.

The coordinators (or representatives) of the learning support organise the dialogue and the cooperation, facilitate and/or organise the continued education, and ensure that the support is adapted to the progress made by the pupils concerned. For coordinators at nursery and primary level, a central meeting is foreseen at least every two years.

It is highly recommended to establish banks of resources in schools and between schools.

The willingness to intervene at an early stage at nursery level is based on a profile of the pupil asked from the parents at the time of enrolment, and on an assessment by a teacher of all the new children. At nursery and primary level, the learning support is organized according to an individual learning plan containing a description of the needs of the child, and to an action plan in order to meet these needs.

The monitoring

At the different school levels, a regular assessment of the progress made as compared to the objectives is foreseen, and if necessary, the strategy is reviewed.

B. THE INTEGRATION OF PUPILS WITH SPECIAL EDUCATIONAL NEEDS (SEN)⁷⁵

In the European Schools the European recommendations as regards integration of children with special needs in the regular education materialize in SEN («*Special Educational Needs*») conventions.

Pupils who can benefit from SEN support

Parents can have their children with different types of handicaps (physical, mental, behavioural, etc.) admitted and integrated in a European School by signing an agreement with the school, setting out «*the acceptance conditions, the individual teaching and learning scheme (educational and pedagogical), the pedagogical and financial support which the school will be able to provide, and the contribution to be made by the parents, in the form of intervention and input benefiting the pupil, normally outside the school*» (p. 11). The European School will only accept a pupil if it is able to guarantee suitable provision, which implies integration in a normal year group.

SEN measures

Each European School has a SEN coordinator, and also an advisory group, composed of the director, an inspector, the teachers involved, the SEN coordinator and a teacher of the other school level in order to ensure a harmonious transition, specialists (doctors, psychologists, etc.) and also the parents. This group analyses admission applications and sets up an individual and pedagogical plan. It also gives advice on the possible renewal of the agreement.

⁷⁵ *Integration of SEN pupils into the European Schools*. Approved by the Board of Governors of the European Schools at its meeting of February 1 and 2, 2005 (Reference: 2003-D-4710-en-6).

The SEN pupil receives support adapted to his or her difficulties, within the framework of a differentiated, active and inclusive pedagogy, in the normal group or individually, in order to be able to follow the normal curriculum. He or she also receives the normal *carnet scolaire*, with explanations on the measures that have been taken. In some cases, the curriculum has to be limited or adapted; the pupil then receives a personalized certificate.

The monitoring

The class council, but also the advisory group regularly assess the progress made by the pupils and formulate recommendations as to continue or end schooling.

C. SUPPORT TO STUDENTS WITHOUT A LANGUAGE SECTION (SWALS)⁷⁶

The number of language sections in a European School depends essentially on the number of pupils of category I having this or that language as their mother tongue (*see also supra*) whereby threshold numbers have to be reached before a language section is organized; it would indeed be impossible to organize all language sections in all European Schools, taking into account the number of official languages following the extension of the European Union.

Note that the official document on this subject takes the form of a report made on the basis of a pilot project set up in three European Schools, and which was approved by the Board of Governors in 2004. This document is hence not of the same type of guidelines as approved for LS or SEN, but nevertheless, the SWALS support is described in the brochure presenting the European Schools in the following terms (p. 10): «*In schools where the creation of a separate language section is not justified, the Board has decided to ensure mother tongue education to pupils for whom there is no language section corresponding to their mother tongue. A specific program for learning the language of the section in which they are enrolled has been put in place in order to facilitate their integration and allow them as fast as possible to follow the education in a language which is not their mother tongue*».

Pupils who can benefit from SWALS support

SWALS pupils can benefit from support in learning the language of the section in which they are enrolled, as well as in additional teaching in their mother tongue.

SWALS measures

The pilot project has shown that four different models of good practice can be used:

- The out-of-class model, where a pupil is taken out of his or her normal class group, generally for a limited time and for certain lessons only, and intensive individual or small group language teaching is provided.
- The in-class model, where pupils are supported by team teaching between the class teacher and the support teacher.
- The reception class model, where a new class is formed which consists of a group of pupils with similar linguistic needs, preparing them to integrate the section they will eventually end up in.
- The extra tutorial model, with intensive language support outside the main timetable.

⁷⁶ *Integration of students without a language section. Report.* Board of Governors of the European Schools, meeting on January 26, 27 and 28, 2004 in Brussels (Reference: 2003-D-7710-en-3).

The program must be flexible, in order to adapt itself to the needs and the progress of the pupils. It is also suggested, in the case that the language in the section is one of the vehicular languages, to make the pupil attend modern language II until he is able to benefit from teaching in that language.

The pilot project has resulted in the creation of a resource bank and a skills bank, and their further development is recommended. Additional budgets are also deemed necessary.

Monitoring

Assessment tests based on the ones recommended by the Council of Europe have been used to evaluate the pupils, and more work is needed in this respect.

D. DISCUSSION

A common point to the different support systems, especially striking in the case of LS and SEN support, is the importance attached to the differentiation inside the classroom: the objective is not to compensate for negative effects of a non differentiated education, but on the contrary, to take better into account the individual specificities, on top of what the normal teacher can do when he is alone before his or her class. In other words, the objective is indeed, in all cases, the integration into the normal year group, according to the objective to *«foster tolerance, co-operation, communication and concern for others throughout the school community and beyond»* (p. 9). The official documents refer to the benefit that all pupils can draw from the heterogeneous character of the groups.

The correct application of the official support guidelines seems to imply that very different children can successfully follow the curriculum of the European Schools ... at least till the 5th year of secondary, after which the support measures can only be applied in exceptional cases, and insofar as a pupil is capable of following a general secondary education.

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Annex 4: Nomenclature of professions used to assess the professional level of the parents

Profession	Level
Employee level A or A* of a EU Institution (or equivalent if on contract basis)	1
Employee level B or B* of a EU Institution (or equivalent if on contract basis)	2
Employee level C or C* of a EU Institution (or equivalent if on contract basis)	3
Employee level D or D* of a EU Institution (or equivalent if on contract basis)	4
National expert linked to a EU Institution	2
Civil servant of level equivalent to A or A* of a non-EU Institution	1
Civil servant of level equivalent to B or B* of a non-EU Institution	2
Civil servant of level equivalent to C or C* of a non-EU Institution	3
Civil servant of level equivalent to D or D* of a non-EU Institution	4
Member of the <i>Corps diplomatique</i>	2
Armed forces (including NATO and Eurocontrol), officers	2
Armed forces (including NATO and Eurocontrol), other ranks	3
Chief executives, general managing directors, CEO	1
Administrative and commercial managers (finance, HRM, marketing, R&D, etc.)	1
Production and specialized services managers (including ICT)	1
Hospitality, retail and other services managers (hotel, restaurant, cultural centre, sport facilities, etc.)	1
Science and engineering professionals (researchers, scientists, engineers, statisticians, etc.)	2
Health professionals (medical doctors, dentists, veterinarians, etc.)	2
Teaching professionals at tertiary level	1
Teaching professionals at secondary level	3
Teaching professionals at primary or early childhood level	4
Business and administration professionals (accountants, sales executives, PR executives, etc.)	3
ICT professionals (software developers, database designers, etc.)	3
Legal, social and cultural professionals (judges, lawyers, librarians, journalists, artists, etc.)	2
Science and engineering assistant professionals (technicians, supervisors, plant operators, etc.)	3
Health associate professionals (nursery, laboratory technicians, pharmaceutical	3

assistants, opticians, etc.)	
Business and administration associate professionals (accounting, banking, sales representatives, real estate agents, etc.)	3
Legal, social and cultural associate professionals (social workers, sport coaches, photographers, interior decorators, etc.)	4
ICT technicians (network and web technicians, user support, etc.)	4
General and keyboard clerks (secretaries, office clerks, etc.)	4
Customer services clerks (bank clerks, receptionists, etc.)	4
Numerical and material recording clerks (bookkeeping clerks, payroll clerks, stock clerks, transport clerks, etc.)	5
Other clerical support workers (mail sorting, filing clerks, etc.)	5
Service and sales workers (travel guides, cooks, hairdressers, shop keepers, cashiers, etc.)	5
Skilled agricultural, forestry and fishery workers (vegetable growers, poultry producers, etc.)	5
Craft and related trades workers (building workers, welders, mechanics, repairers, printers, etc.)	5
Plant and machine operators and assemblers	5

Annex 5: Detailed analysis per mother tongue of the mobility aspects concerning the academic and professional careers

In the paragraphs 4.3.3 and 4.3.5, several mobility aspects concerning the academic and professional careers have already been dealt with. A distinction was made on the basis of the mother tongue of the graduate, being either one of the three vehicular languages (English, French or German), or one of the (in theory, 20) other official languages of the EU27 taken together. This (limited) level of detail was chosen in order not to overwhelm the «general reader» with too many statistical data. In this appendix, some of the results will be further detailed per (smaller) language for the «more interested reader». As was said in paragraph 4.2.2., a threshold value of 3% of the responses (or about 100 responses in absolute numbers) was applied, in order to guarantee a sufficiently high level of statistical representativeness; this yields six additional languages (in descending order of importance: Italian, Dutch, Spanish, Portuguese, Danish and Greek) for which results will be given.

We start with the degree of satisfaction about the mother tongue education in view of tertiary education:

Table 13bis: Satisfaction about mother tongue education in view of tertiary education (by mother tongue)

L0/L1	IT	NL	ES	PT	DK	GR
Yes, the level was high enough for my academic career	88%	97%	94%	91%	93%	81%
This level was barely adequate	11%	2%	4%	5%	7%	17%
No, the level was not high enough	2%	1%	2%	3%	0%	2%

When only looking at the graduates who consider that the level was not high enough, there is no significant difference in appreciation as compared to the vehicular languages; however, when looking at those who consider the level to have been barely adequate, the percentage of graduates is about twice the average for Italian, and even three times higher for Greek.

We complete this analysis with the more general degree of satisfaction about the preparation by the European Schools' system to tertiary education according to the graduates' mother tongue:

Table 14bis: Satisfaction about preparation to tertiary education (by mother tongue)

L0/L1	IT	NL	ES	PT	DK	GR
I felt much better prepared	35%	35%	40%	35%	38%	37%
I felt evenly well prepared	46%	47%	42%	47%	46%	35%
I felt less well prepared	18%	15%	16%	15%	11%	28%
no opinion	1%	3%	3%	3%	5%	0%

We have also analysed the geographical mobility of the graduates, by listing the country in which they started their academic career, thereby distinguishing three possibilities: their country of origin, the country where they went to a European School, but which is not their country of origin, and another country. The results are summarised in the following table, in descending

order of importance of the language of the graduates (based on the number of answers):

Table 8bis: Country where graduates started their academic career (first college or university attended) as compared to their own mother tongue

	FR	DE	EN	IT	NL	ES	PT	DK	GR	average
Country of origin	56%	49%	59%	58%	63%	42%	50%	53%	38%	56%
Country of ES \neq country of origin	16%	12%	8%	16%	11%	25%	20%	5%	19%	14%
Other country	28%	39%	33%	26%	26%	34%	31%	42%	43%	30%

As we can see, on average, 30% of the graduates started their academic career in a country that is neither their country of origin nor the country where they attended a European School. For graduates having Danish or Greek as their mother tongue, this percentage even exceeds 40%, which is probably not a surprise, but also the percentage for German speaking graduates is significantly higher than the average, whereas for Dutch and Italian, it is lower. The consultants have no explanation for these differences.

Also the percentage for English speaking graduates is higher than the average, but then it should be remembered that this does not necessarily mean that the graduates concerned actually shift to tertiary education in a language different from their mother tongue (as is most probably the case for the graduates having as mother tongue a language only spoken in one country, like Danish or Greek). In other words, the figures above only give an indication concerning the geographical mobility of the graduates, and not necessarily about their linguistic flexibility, which we have also analysed, by looking at the language used at the first college or university as compared to the mother tongue of the student. These results are summarised in the following table, in descending order of importance of the language (based on the number of answers):

Table 9bis: Language in which graduates followed tertiary education (first college or university attended) as compared to their own mother tongue

	FR	DE	EN	IT	NL	ES	PT	DK	GR	average
L0/L1	81%	62%	86%	67%	71%	51%	56%	55%	56%	71%
L2	14%	26%	10%	23%	19%	33%	32%	29%	33%	20%
L3	4%	9%	2%	7%	7%	14%	10%	10%	9%	6%
Other	2%	3%	1%	2%	3%	3%	2%	5%	2%	2%

It probably does not come as a surprise to see that the overwhelming majority (86%) of the graduates who have English as their mother tongue, start their academic career in this language; this is still true, albeit to a bit lesser degree (81%) for the French speaking graduates. On the other hand, it seems also normal that the «less important» languages (like Portuguese, Danish and Greek) only succeed in convincing slightly over half of the graduates (55-56%) who have it as their mother tongue, to also use it for their academic career.

What does come a bit as a surprise, are the results for German, Dutch and especially Spanish:

- only 62% of the German speaking graduates use their mother tongue for their academic

career, which is much lower than for the two other vehicular languages English and French

- on the other hand, 71% of the Dutch speaking graduates use their mother tongue for their academic career, which is about halfway between German and French
- but only 51% of the Spanish speaking graduates use their mother tongue for their academic career, which is even lower than the graduates having a much smaller language as their mother tongue.

The consultants see no explanation for these results⁷⁷, but we have compared them with the use of languages at the start of the professional careers; these results are summarised in the following table.

Table 29bis: Language used at the start of the professional career as compared to their own mother tongue

	FR	DE	EN	IT	NL	ES	PT	DK	GR	average
L0/L1	41%	32%	51%	35%	36%	39%	47%	30%	24%	36%
Other	27%	36%	18%	31%	29%	32%	29%	36%	44%	29%
L0/L1 + other	32%	31%	31%	34%	36%	29%	25%	34%	31%	35%

The low number of German speaking graduates using German as the most important language at the start of their professional career has already been highlighted (*see paragraph 4.5.4.*); it turns out not only to be lower than the percentages for the two other vehicular languages (French and English), but also lower than for Italian, Dutch and Spanish.

Note that the results for the «less important» languages are not conclusive: on the one hand, we see the high percentage for Portuguese (47%, nearly as high as English with 51%), and on the other hand, the low percentage for Greek (only 24%).

⁷⁷ The special case of the Dutch speaking graduates may perhaps partially be explained by the use of English for mastership education at Dutch universities, but this would need further looking into.

Annex 6: Detailed analysis of the satisfaction per school

In the paragraphs 4.3.5 and 5.1, we have *i.a.* analysed the degree of satisfaction of the European Schools, whereby we had only made a distinction between «big» and «small» schools, in order not to overwhelm the reader with data.

In this annex, these data will be further detailed per school, at least insofar as we have received enough answers to make them statistically relevant. We have applied here the same threshold value of 3% or roughly 100 answers as in annex 5; in practice, this means we do not take into account the data related to the European Schools in Alicante, Bergen, Culham and Frankfurt (*see paragraph 4.2.6*).

The following table contains the information concerning the satisfaction about the preparation by the European Schools' system to tertiary education:

Table 15bis: Satisfaction about preparation by European Schools' system to tertiary education, by school

European School	Bxl I	Bxl II	Bxl III	Karl- sruhe	Lux I	Mol	München	Varese
I felt much better prepared than my fellow students at university	41%	41%	35%	40%	32%	32%	30%	38%
I felt evenly well prepared	45%	44%	42%	45%	49%	51%	52%	42%
I felt less well prepared	11%	12%	18%	14%	16%	15%	15%	19%
no opinion	2%	3%	5%	1%	3%	2%	3%	2%

The final table contains the opinion about the European Schools' system in general.

Table 34bis: General opinion about the European Schools' system, by school

European School	Bxl I	Bxl II	Bxl III	Karl- sruhe	Lux I	Mol	München	Varese
positive opinion	77%	73%	66%	73%	74%	72%	69%	64%
neutral opinion	20%	23%	30%	27%	24%	27%	28%	30%
negative opinion	3%	3%	4%	0%	2%	2%	2%	6%

All in all, differences between the individual European Schools are relatively minor.