European Schools

Office of the Secretary-General

European Baccalaureate Unit

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Orig.: EN

Moving towards the on-line correction[1] of the European Baccalaureate written examination scripts

BOARD OF GOVERNORS

Meeting on the 1st, 2nd and 3rd of December, 2015 – OSGES Brussels

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[1] On-line correction is often referred to as remote correction, distance correction, on-screen correction, etc.

1.- Background

Document 2015-01-D-34-en-3 "Follow-up of recent reports of the chairmen of the European Baccalaureate Examining Board (2008-2014)" revised the proposals made and the changes introduced in different aspects of the European Baccalaureate recommended by the chairmen of the last six Baccalaureate sessions.

The chairmen reports have certainly contributed to generate an interesting debate about all aspects of the European Baccalaureate. Indeed, the European Baccalaureate Working Group took them in consideration in its final report recommending a series of changes to reform the European Baccalaureate. This report was approved by the Board of Governors in December 2011.

In the last years, the trends in education have evolved and education technology has also developed alongside in order to contribute to the improvement of the quality and efficiency in all aspects of education. In this light, the reflection on the European Baccalaureate from the former chairmen have been revisited.

We realized that a good number of proposals were related with the absence of a suitable **technological platform** to deal efficiently with all processes and data related to the management of assessment in the European Baccalaureate.

The Board of Governors on its meeting on the 15th, 16th and 17th of April, 2015 in Prague approved Document 2015-01-D-34-en-3 and decided to give a mandate to the Office of the Secretary-General, through its European Baccalaureate Unit, to produce proposals regarding the future measures to be taken in the following areas mentioned in the conclusion of the aforementioned document:

1. Internal/external input on assessment of final exams.
2. Process of anonymizing of copies and distance correction of scripts.
3. Number and nature of examinations.
4. Process of elaboration of examinations.
5. External expertise and continuous training of teachers.

This paper will deal with aspects 1, 2 and 5 of the above.

2.- Correction and marking of the European Baccalaureate written examination scripts. Current situation.

Candidates sit 5 written examinations during the European Baccalaureate session. The examinations are held in the different European and Accredited European schools (examination centres). The written examinations are written on paper.

The following are some features of the correction and marking of the European Baccalaureate written examinations nowadays:

Criteria referenced
All examinations are accompanied by a marking scheme and grid, correction criteria and guidelines and/or suggested answers. These are known to the correctors and serve as a benchmark to assess the examinations and award marks.

Anonymity of the scripts
Examination scripts are **not** anonymous. The name of the candidates is visible on the examination scripts.

Double correction (internal / external)
Every script is corrected twice. The first correction is carried out internally by the teacher of the candidate. It takes place in the school. The second correction is carried out later at the correction centre situated in the European School of Brussels I by a corrector external to the European School system.

Even though the Board of Governors, at its meeting of 6th, 7th and 8th of December 2011, in Brussels, approved that *"the second marker should be a teacher at the European School external to the examination centre where the Student is taking the Baccalaureate examination",* this measure has never been implemented, since the recommendations of chairmen and different external reports (External evaluation of the European Baccalaureate, University of Cambridge 2009; External evaluation of a Proposal for the Reorganisation of Secondary Studies in The European School system, 2015) stress on the importance of maintaining external assessment as an important element of credibility of the European Baccalaureate. Also, because of technical reasons, namely the absence of a reliable technological platform for on-line correction.

All in all, we are convinced of the importance and convenience of maintaining external correction.

Logistics
The European Baccalaureate Unit produces a document which regulates the organisation of each European Baccalaureate session: the "*Memorandum on organisation of the 20__ European Baccalaureate session*". In this document we can find the names of the external correctors and the scripts that are assigned to each of them.

The scripts are sent by post (courier) from the examination centres to the correction centre at the European School of Brussels I (Uccle) and then distributed by the Brussels I and European Baccalaureate Unit staff to the external correctors.

Centralised second correction
All external correctors (except those who are engaged in distance correction) gather in the correction centre at the European School of Brussels I (Uccle). The second correction of the Baccalaureate written examinations takes place there, usually during the third week of June.

Organisation and cost
Around 200 correctors coming from different European countries participate in the correction of scripts at Brussels I. This implies a very complex organisation and a high cost of travel expenses and subsistence allowances corresponding to roughly two thirds of the total cost of correction.

Possibility of moderation
On the Monday of the third week of June, the Board of Inspectors Secondary (BIS) holds its meeting in order to:

- Be reported on the conduct and proceedings of the written examinations.
- Analyse remarks and comments about the examination papers sent from the schools.
- Discuss any other urgent Baccalaureate-related issues.

The BIS can agree on releasing special instructions or recommendations for correction to the external written examination correctors on account of the relevance of the issues raised.

Written examination correctors arrive one day later, on Tuesday, and work through until they have finished correcting their examination scripts, at the latest until Friday that week. A moderation or

briefing session can be organised early on Tuesday morning before starting the corrections, if the inspector finds it necessary.

Blind correction
No visible traces of correction can be left on the scripts. The marks and comments are filled in on a separate form. The second correctors do not have access to these separate forms. They cannot communicate with the first correctors. All in all, the second correctors must not be aware of the first correctors' assessment so as to avoid bias.

Mark agreement
Inspectors have the lists of the marks awarded to the pupils by their own teachers (first correctors) which are checked against the marks given by external written examination correctors (second correctors). The final mark will be the mathematical average of the marks awarded by both correctors.

The inspectors need to ensure that there is no major discrepancy between the two marks. If there is a difference of more than 2 marks, a third corrector must be brought in. The third corrector will be made aware of all marks and comments and s(he) will award a third mark that needs to be equal to or between the marks awarded by the first and second correctors. This will be the final mark.
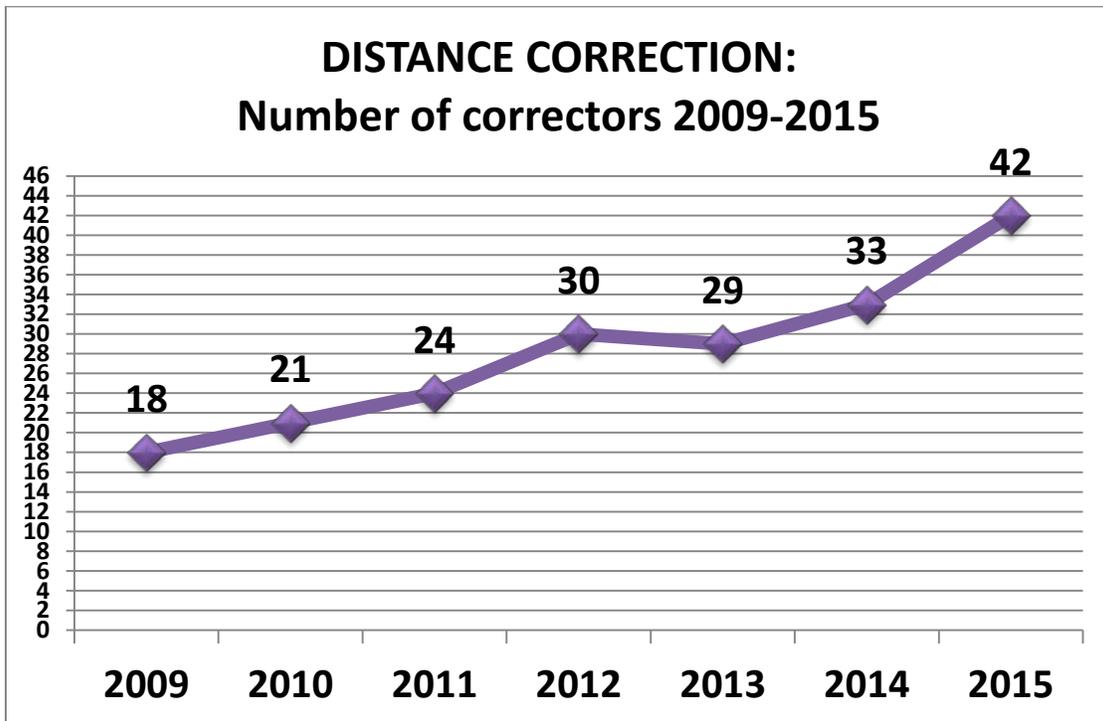
Pool of external correctors
The pool of external correctors is quite large (around 200), since the external correction must be ready in 4 days and the maximum number of papers per day that can be corrected is 12 or 15 depending on the subjects. This makes a maximum of 60 copies per external corrector.

The pool of external correctors is quite stable and in many cases they are former European School teachers.

3.-Distance correction in the European School system

In 2009 a small scale pilot project started in order to scan some scripts and make them available to second correctors through a secure platform, the "Learning Gateway", so that they would not have to travel to the correction centre in Brussels I and could correct from home.

The number of external correctors in this project has gone from 18 in 2009 to 42 in 2015. This process has proved very efficient and reliable.

DISTANCE CORRECTION:
Number of correctors 2009-2015

Year	Value
2009	18
2010	21
2011	24
2012	30
2013	29
2014	33
2015	42

The number of scripts corrected has also increased over the years

DISTANCE CORRECTION:
Number of scripts 2009-2015

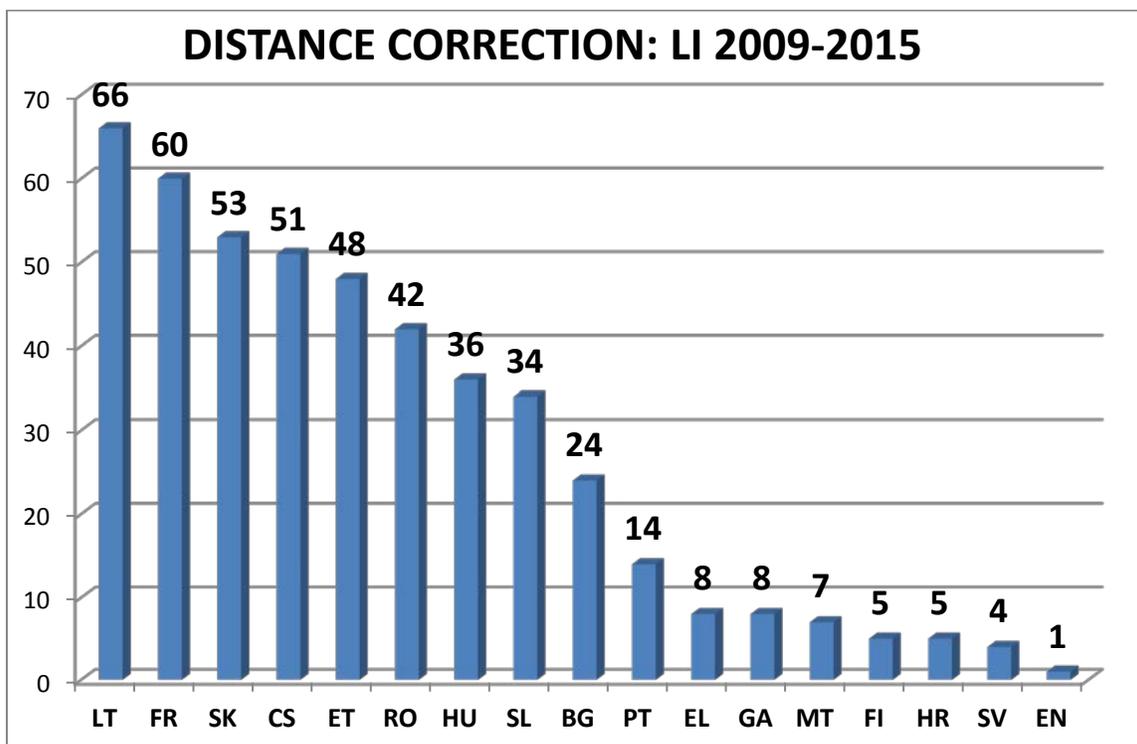| Year	Value
2009	143
2010	231
2011	159
2012	187
2013	200
2014	208
2015	241
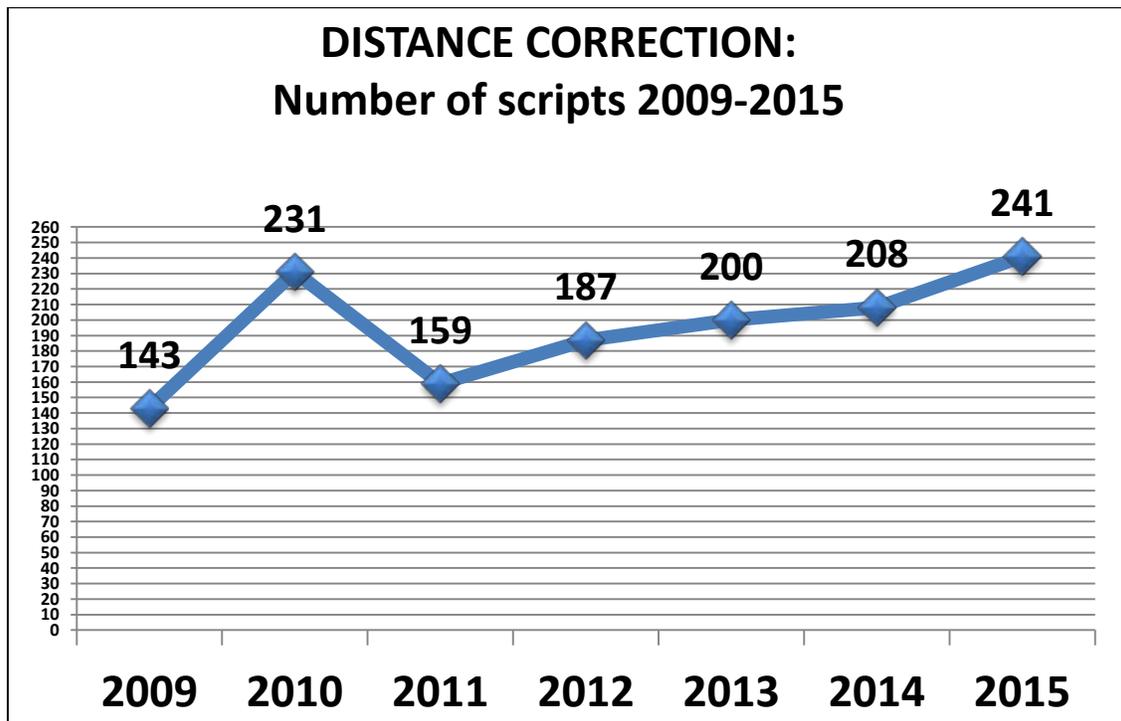
Most of the schools have been involved in the project. This school year 15 European Schools and Accredited European Schools participated.

Most of the subjects have been concerned over the years with this project.

DISTANCE CORRECTION: All subjects 2009-2015

Bar chart showing distance correction counts by subject (2009-2015):
- LI: 359
- PHILOSOPHY: 196
- BIOLOGY: 192
- ECONOMICS: 116
- CHEMISTRY: 109
- MATHS 3P: 89
- LIII: 70
- PHYSICS: 63
- ART: 38
- MATHS 5P: 33
- LATIN: 30
- MUSIC: 30
- LIV: 20
- LIADV: 8
- ANCIENT GREEK: 7
- ONL: 6
- LII: 3
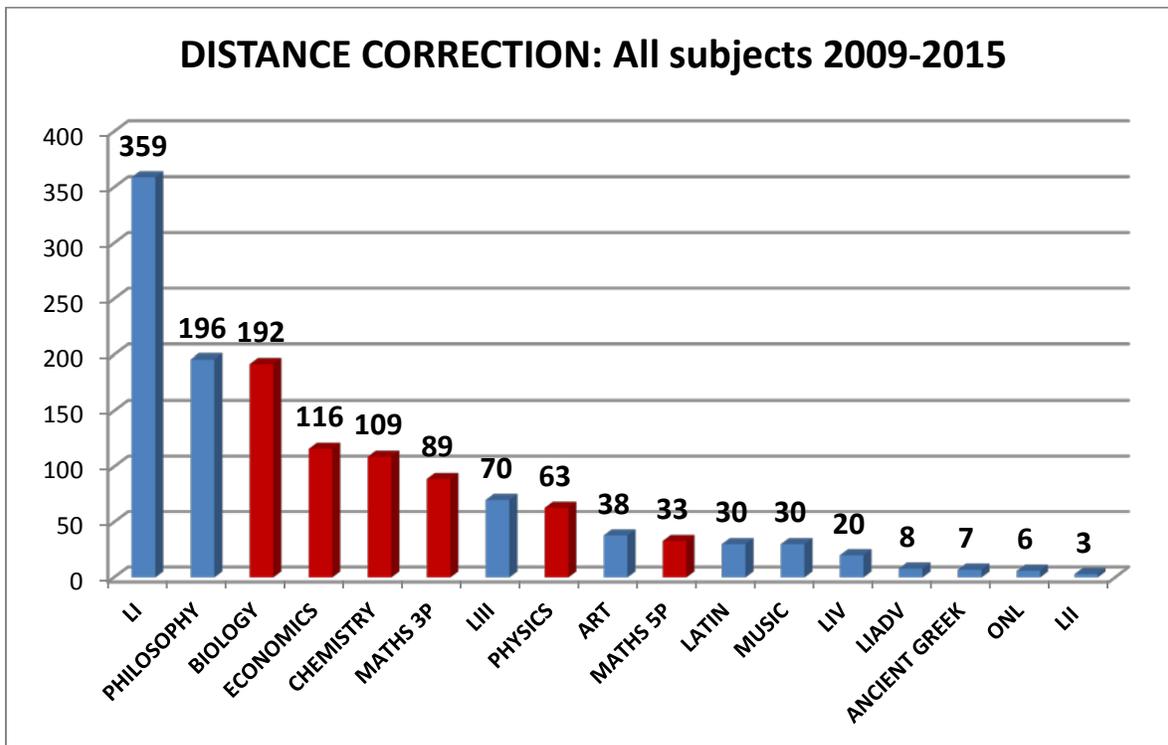
As it can be observed, the number of distance corrections of LI is the largest. This has concerned also most of the LI subjects.

DISTANCE CORRECTION: LI 2009-2015

Bar chart showing distance correction counts for LI by language (2009-2015):
- LT: 66
- FR: 60
- SK: 53
- CS: 51
- ET: 48
- RO: 42
- HU: 36
- SL: 34
- BG: 24
- PT: 14
- EL: 8
- GA: 8
- MT: 7
- FI: 5
- HR: 5
- SV: 4
- EN: 1

The conclusion we would like to draw about this project is that nowadays we are already familiar with all operations related to on-line correction and that we have already built some expertise and confidence among the participants in the project:

- Members of the administrative staff in the schools who take care of the scanning and the uploading of the scripts,
- Members of the Baccalaureate Unit who manage the platform,
- External correctors who correct the scanned copies at a distance.

All in all it seems we are ready for a change of scale in the project and to move forward to adopt fully an on-line correction system.

However, neither the "Learning Gateway" nor our scanning practices are specifically designed for on-line correction. The current arrangements would prove inefficient if they had to be used at a large scale. Therefore, we need to adopt specific on-line correction tools that can cater for our needs.

4.- On-line correction tools today

The correction of examinations through on-line correction tools is already a widespread solution in many national and international systems, especially for high-stakes examinations. On-line correction tools address successfully several problematic logistic issues and can also contribute to enhance the accuracy and reliability of assessment, as it is argued by relevant literature.

Nowadays, it is relatively easy to find in the market affordable, reliable and flexible on-line correction tools that could fit our assessment policy and practices.

The implementation of on-line correction tools could be made quite rapidly and in a safe way. It could help us improve the quality of marking in the European School system.

5.- A correction model using on-line correction tools for the European Schools

These tools would be part of a model that should retain all the current elements contributing towards the quality of the assessment. In this sense, the adoption of on-line correction tools should add up in order to improve the quality of our assessment practices.

5.1.- Basic Features
These would be some of the features we would require:

Detailed marking schemes
The more concrete marking schemes and correction instructions are the more reliable the assessment becomes. Correctors should have this available at all times during on-line correction at the reach of a click.

Multiple marking
Several correctors can contribute to the correction of a script.

Anonymity
This would help, especially the first correctors, to carry out unbiased assessment of candidates. However, we are aware that still candidates could be recognizable by their handwriting or writing style in the case of the first corrector.

Scanning of the examination scripts
The scanning of the scrips would be made in each examination centre. The scripts would be uploaded automatically to a secure server. This means that the original paper scripts will be always in the possession of the school, thus eliminating the risks derived from the transportation of the scripts to the correction centre.

The scanning of the examination scripts will allow scripts to be available earlier for second correctors. This can have the following advantages:

- Extension of the correction period for second correction (now limited to 4 days)
- Possibility of reducing the number of external correctors (now necessary a larger number since the maximum number of papers that can be corrected in 4 days is 60)
- Wider choice of second correctors (now limited to those who can be freed from work in the middle of June and travel 4-5 days to Brussels).

Retrieving evidence and accessibility to corrected scripts
Corrected scripts would be easily accessible since they would be stored in a secured server accessible anytime from anywhere. This would also eliminate the difficulty of retrieving documents in case of appeals and especially during periods where many members of the staff in the schools are on holidays.

Corrector's training
The on-line correction tools should be intuitive and easy to use. There should be an on-line tutorial and a help-line. The electronic tools should be web-based so that no software needs to be installed on the correctors' own computers.

Corrector's assessment
On-line tools should be able to inform on correctors performance. Analysis of standard deviation on the correction of questions (items) or whole scripts should be possible.

The use of seeding or validation should be possible, especially for new correctors.

5.2.- Some advantages
There are evident advantages derived from the use on an on-line tool:

Blind correction
On-line correction would allow scripts to have marking signs, symbols and comments without them being accessible to the second corrector, so that the second correction would remain unbiased.

Random allocation of the scripts
On-line correction would allow to distribute evenly scripts from different schools to different correctors. Nowadays, so as to simplify the logistics, it is normally one corrector that corrects all the scripts from the same school.

Item-level correction and marking
On-line correction would also allow different questions (items) in the same script being corrected by different correctors. This could be useful to allocate the more difficult questions to correct to more experienced correctors.

Item level correction prevents correctors to be biased by the context, i.e. by the questions they have corrected in the same script.

Absence of transcription or addition error
On-line correction tools will alert the corrector when items have not been corrected or marked. Marks will be added automatically. Therefore, errors derived from transcription or addition of marks will be minimised.

Secure communication
On-line tools have secure communication channels so that the inspectors responsible for a subject can communicate (synchronous and asynchronous) with the correctors.

Monitoring of the correction process
On-line correction tools should allow monitoring and validation of the correction process. By using a software system, there will be immediate access to statistics on performance.

All these elements will contribute to enhance the transparency in a so important assessment process.

6.- Blended and decentralised model.

We envisage a blended model combining on-line correction with face-to-face meetings in several correction centres. Correctors could gather in the different European Schools depending on their proximity and have a one or two day meeting with the inspector responsible for the subject while they start performing on-line correction. The provider and the BAC Unit would train the correctors, troubleshoot and give support in the use of the tools. Once they are confident with the use of the tools, they will continue correction remotely from their own places.

The blended model with face-to-face meetings is meant to be permanent, not transitory. The meetings will serve for external correctors information and instructions, exchange of best practices, training and other issues aimed at improving the quality of assessment.

In Annex 3 an example of distribution of decentralised correction is shown.

7.- Implementation plan

Periods	Steps	Who?
Research July 2015 August 2015	Identification of possible providers / Visits Contacts with organisations using on-line correction and marking tools (IBO, AEFE…) Reviewing literature	BAC Unit / IT Unit
Project drafting September 2015 October 2015	Drafting of the paper Presentation to the Board of Inspectors Secondary Information to the Joint Teaching Committee	BAC Unit BIS JTC
Project drafting November 2015 December 2015	Presentation of the paper to the Budgetary Committee Revision of the draft paper Presentation of the paper to the Board of Governors	BC BAC Unit BoG
Call for tender December 2015 February 2016	Revision of the financial statement Elaboration of a CALL FOR TENDER	BAC Unit BAC Unit / Procurement cell
Progress report February 2016 April 2016	Presentation of progress report to the BIS Presentation of progress report, financial statement and call for tender to the BC Launching of the call for tender procedure Presentation of progress report to the Board of Governors	BIS BC OSGEE BoG
Purchasing September 2016	Choice of tools / Purchasing operations	OSGEE
Planning and Organisation October 2016	Integration of tools Identification of main participants in process in each centre (responsible members of staff and back-up for scanning and uploading process) Presentation to key stakeholders	Provider / IT Unit Schools Provider / IT and BAC Unit
Deployment and training November 2016	Initialization of system for training in centres and for test sessions Training of administrators (scanning, online-marking setup and management) Training of referents (teachers / administrative staff / external correctors) Insertion of administrative elements (subjects, candidates, examiners, mark schemes...) Insertion of information for correctors (correction instructions) Transfer of login information to examiners and supervisors Setup and training for scanning personnel at schools Training of examiners and inspectors	IT Unit Provider BAC Unit / IT Unit / Provider Provider / BAC Unit Provider / BAC Unit Provider Provider Provider

Test phase January 2017	Test and validation of scanning centres Test sessions in exam centres during pre-baccalaureate phase	Schools / Provider / BAC Unit
Production June 2017 July 2017	Insertion of information for correctors. Moderation. Scanning and transfer of scripts onto platform Online marking and monitoring of digitized scripts Organization of final validation process Extraction of test results and archives	Inspectors / BAC Unit Centres Correctors Inspectors / BAC Unit Provider / IT Unit / BAC Unit

Opinion of the Board of Inspectors

The Board of Inspectors (Secondary Cycle) scrutinized the document 2015-09-D-20-en-1, and decided to approve the following items:

A) Abolishment of the decision of the Board of Governors at its meeting of 6th, 7th and 8th of December 2011 in Brussels that approved that *"the second marker should be a teacher at the European School external to the examination centre where the student is taking the Baccalaureate examination"* since this practice has never been implemented and it is contrary to all recommendations. Continue with 2nd correction being performed by an external corrector.

B) Implementation of an on-line correction system as described in this paper for the European Baccalaureate written examination scripts.

b1) For the 2017 European Baccalaureate session

b2) Maintaining a blended model with a 1 or 2 days face-to-face meeting in decentralised correction centres supported by a suitable training scheme.

Opinion of the Budgetary Committee

The Budgetary Committee scrutinized the document 2015-09-D-20-en-3 and recommends the Board of Governors to approve the principle of the implementation of an on-line correction system as described in this paper for the European Baccalaureate session 2017.

The Budgetary Committee remarked that this project should pay great attention to data protection and security issues.

The Budgetary committee showed reservations concerning the increase of correction fees proposed in document 2015-09-D-22-en. They recommended further reflection on this issue.

Further details of this project will be presented during the meetings of spring 2016.

Proposal to the Board of Governors

The Board of Governors is invited to scrutinize the document 2015-09-D-20-en-4 and to approve the following:

A) Abolishment of the decision of the Board of Governors at its meeting of 6th, 7th and 8th of December 2011 in Brussels that approved that *"the second marker should be a teacher at the European School external to the examination centre where the student is taking the Baccalaureate examination"* since this practice has never been implemented and it is contrary to all recommendations. Continue with 2nd correction being performed by an external corrector.

B) The principle of the implementation of an on-line correction system as described in this paper for the European Baccalaureate session 2017, on the basis of a cost neutrality in the long run.

Further details, organizational and financial, of this project will be presented during the meetings of BIS, CPM and BC in spring 2016.

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Annex I

Letter and survey to the external correctors

To the attention of:
European Baccalaureate written examination external correctors.
European Baccalaureate oral examination external examiners.

Dear colleagues,

First of all, we would like to express our appreciation for your valuable participation in the assessment of the European Baccalaureate candidates during the 2015 session. We are convinced that external evaluation contributes significantly to strengthen the accuracy, validity and reliability of the European School Baccalaureate.

The European School system aims at excellence through innovation and improvement in all aspects of education, including those related to assessment. That is why, for the 2017 European Baccalaureate session, we are planning to move towards using on-line correction tools. We are convinced that on-line correction will allow a higher degree of harmonisation, transparency and fairness in the evaluation of our pupils. The driver for this change is, therefore, to improve the overall quality of marking and assessment within the European School system.

We propose a blended model that will combine face-to-face meetings with the inspector responsible for the subject at different correction centres (European Schools) for 1 or 2 days and then the rest of the correction would be done remotely. The electronic correction tools will need to be very intuitive, easy to use, and allow interaction among the correctors and the inspectors.

In this frame, the system of remuneration will foresee a fee per corrected copy.

We will keep you posted about the progress of this project and come back with more precise information soon but in the meanwhile we would appreciate it very much if you could answer this short survey to get to know your first impressions. Please, click the following link:
https://www.surveymonkey.com/r/JJQR5BF

Thanks a lot and best regards,

Manuel Bordoy
Head of the European Baccalaureate Unit
European Schools

Annex II

Survey to external correctors

Surname:

Name:

Nationality:

Mother tongue:

Other languages:

Subject(s) you are qualified to correct:

Number of years as written examinations corrector for the European Baccalaureate:

Have you ever corrected written examinations with on-screen correction tools? YES / NO

    If yes, which?

    If yes, for which educational system(s)?

Comment on this experience:

Would you be willing to correct the European Baccalaureate examinations using on-screen correction tools?

    YES / NO

    Reasons:

Annex III

This is only a simulation of how decentralised correction could be organised for Baccalaureate session 2017. All correction centres would be European Schools. The correctors already performing distance correction would continue correcting from home.

	9 Correction Centres	Estimation of number of correctors per centre
1	ALICANTE	8
2	BRUSSELS 1	40
3	BRUSSELS 2	32
4	BRUSSELS 3	32
5	BRUSSELS 4	46
6	FRANKFURT or any other school in Germany	14
7	MOL or BERGEN	9
8	VARESE	8
9	DISTANCE CORRECTION (from home)	33
TOTAL		**222**

Each inspector responsible for a subject would be assigned to a correction centre, where the external correctors would attend depending also on the subjects. Subjects, external correctors and inspectors responsible for a subject are assigned to a correction centre based on the principle of efficiency. For example, in the European School of Alicante we would have all external correctors dealing with all levels of Spanish language and the inspector responsible for Spanish. Art in Spanish would continue being corrected in Alicante, as that has been the case already for a number of years.

In 6 and 7, the choice of correction centre would be made by considering the same principle of efficiency and with the agreement of the inspector(s) responsible for subjects assigned to those correction centres.

In Brussels, we have made a distribution in 4 schools, but it would be also possible to group correction centres, even maintain Brussels I as a central correction centre.

In the following table we show a simulation of a possible distribution of subjects in correction centres (based on the 2015 European Baccalaureate session situation).

Correction centres	Subject	LANGUAGES	Number of Correctors	TOTAL number of Correctors
ALICANTE	ART	ES	1	**8**
	L1-		2	
	L1-L2		1	
	L3-L4		4	
BRUSSELS 1	ART	DE, EN, FR	4	**40**
	L1-	DA, EL, EN, FI, PL, SV	8	
	L1-L1 ADV		4	
	L1-L2-L4		1	
	L1-L3-L4		1	
	L2-		13	
	L2 ADVANCED		1	
	L2-L2 ADV		3	
	L2-L3		1	
	L3-		4	
BRUSSELS 2	BIOLOGY 4P	ALL	10	**32**
	CHEMISTRY		12	
	HISTORY 4P	DE, EN, FR	8	
	L1-	PT	1	
	L1-L3-L4		1	
BRUSSELS 3	ECONOMICS	ALL	6	**32**
	GEOGRAPHY 4P	DE, EN, FR	6	
	L1-	BG, FR	9	
	L1-L1 ADV	FR	1	
	L2-		7	
	L2 ADVANCED-L3		1	
	L2-L3		1	
	L3-L4		1	
BRUSSELS 4	MATHS 3P	ALL	4	**46**
	MATHS 3P & 5P		27	
	MATHS 3P & 5P & PHYSICS		2	
	MATHS 5P		2	
	PHYSICS		11	
FRANKFURT or any other ES in Germany	L1-	DE	5	**14**
	L1-L1 ADV		1	
	L2-		5	
	L2 ADVANCED-L3-L4		1	
	L3-L4		1	
	MUSIC 4P	DE, EN	1	

Correction centres	Subject	LANGUAGES	Number of Correctors	TOTAL number of Correctors
MOL or BERGEN	L1-	NL	2	9
	L1-L2		1	
	L3-L4		1	
	PHILOSOPHY 4P	EL, EN, FR, IT	**5**	
VARESE	ART	IT	1	8
	L1-		4	
	L1-L1 ADV		1	
	L1-L2-L3		1	
	L4-		1	
DISTANCE CORRECTION	ANCIENT GREEK	EL	1	33
	BIOLOGY 4P	EL, ES, FI, HU, PL, PT, SV	7	
	CHEMISTRY	PL	1	
	ECONOMICS	IT, NL	2	
	L1-	CS, ET, HR, LT, LV, RO, SK, SL	9	
	L3-	FI	1	
	LATIN	DE, NL	2	
	MUSIC 4P	DE, EN	1	
	ONL	SV	1	
	PHILOSOPHY 4P	DA, DE, ES, FI	4	
	PHYSICS	EL, ES, FI, PL	4	

	TOTAL	**222**