

Ofqual



Llywodraeth Cymru
Welsh Government



Rewarding Learning

Inquiry into Examination Errors Summer 2011

Interim Report

October 2011

Ofqual/11/5073

Contents

Foreword	2
Executive summary	3
Background	5
Inquiry terms of reference	5
Our oversight of the examination system	6
Actions taken by us in response to the examination errors	7
Inquiry approach and work completed so far	9
Awarding organisation visits	9
Evidence from key stakeholders	10
Awarding organisations' internal investigations	10
Nature and causes of the question paper errors	10
Actions being implemented by the awarding organisations	11
Issues to be considered in the next phase of the inquiry	11
Next steps.....	13
Appendix 1 – Nature and causes of the question paper errors.....	14
AQA.....	14
Edexcel	16
OCR	17
CCEA	19
WJEC	19
Glossary	21

Foreword

During the summer 2011 examination season a number of significant errors in a small number of GCSE, AS and A2 question papers made it difficult or impossible for candidates to answer some questions. The question paper development and production process is complex and the successful delivery of high-quality papers relies on the commitment of thousands of externally contracted examiners and numerous interfaces between different functional groups within the awarding organisations as well as with external suppliers such as printers.

The number and significance of the errors this summer was unacceptable and we launched an inquiry to provide recommendations directed at driving improvements in the quality of question papers – improvements that should result in an error rate as low as humanly possible. The responsibility for errors and ultimately for improving the system in the future lies with awarding organisations, but the terms of reference for this inquiry recognises that there may be lessons for the regulatory arrangements (across the three relevant regulators) to support this improvement.

The starting point for improvement is to understand what went wrong this year and this report sets out our interim findings. We also provide information on the measures that the awarding organisations have taken to reduce the risk of live error in the examination papers that candidates are due to sit in November of this year and in January and June next year.

In the second phase of the inquiry we will turn our attention to the longer term lessons for awarding organisations, and in particular how they can enhance and develop their quality assurance arrangements to reduce materially the risk of serious live errors. We will also set out the lessons for our regulatory arrangements.

The inquiry is on track to report finally in December.

Executive summary

During the summer 2011 examination season a number of significant errors in a small number of GCSE, AS and A2 question papers made it difficult or impossible for candidates to answer some questions. Our priorities during the examination season were to make sure that the awarding organisations did everything possible to prevent further errors and to make sure that, as far as possible, candidates had not been unfairly advantaged or disadvantaged by the errors.

Once candidates had finished taking their examinations, we launched an inquiry to establish the facts and find out the root causes of the errors and to provide recommendations directed at driving improvements in the quality of question papers. The inquiry is also looking at awarding organisation responses where live errors have occurred.

When we launched the inquiry we recognised the importance of establishing early on what caused the question paper errors and what lessons could be learnt in time for the next series of examinations to ensure candidates, parents, centres and other stakeholders can continue to have confidence in the examination system. Therefore this interim report provides an update on the progress of our inquiry to date. It provides a factual account of the nature and causes of the errors which we have agreed with the awarding organisations. It reports on the additional quality assurance measures that awarding organisations have already put in place to prevent live errors in November 2011, January 2012 and June 2012 papers and in the longer term. On the basis of the evidence collected so far this interim report also sets out emerging potential areas for improvement which are providing focus for the areas of further analysis necessary during phase two of the inquiry.

We have found the awarding organisations supportive of the inquiry's aims, cooperative and already working hard to implement measures to improve the quality of examination papers both in the shorter and longer term. These measures include: further checks of papers; the recruitment of additional expertise in proof reading; the audit of external suppliers' quality assurance processes and additional training for staff and examiners.

Stakeholders have acknowledged the significant effort during the summer to mitigate the negative impact of the errors, and most are of the view that awarding organisations took adequate measures to inform centres of the steps they were taking in relation to questions containing errors. Stakeholders have raised some concerns including: the technical nature of awarding organisations' communications regarding redress mechanisms; the impact of errors and use of erratum notices on candidates; and the clarity of action required of centres when live errors occur and the advice which should be issued to candidates. These have informed the issues to be more fully explored in phase two of the inquiry.

Once we have completed our analysis we will be in a position to publish a final report later this year. This will set out our findings in relation to the five objectives of the inquiry. It will set out the full range of evidence collected during the inquiry to identify those aspects of the question paper development and production process which are of key concern and in the final report we will set out recommendations for reducing the risk of errors in future examination series. The final report will provide information to enable decisions to be made about any further regulatory action relating to the errors that occurred during the summer 2011 examination series for some or all awarding organisations.

Background

GCSEs, AS and A levels are offered by six awarding organisations across England, Wales and Northern Ireland. They are AQA, CCEA, Edexcel, ICAAE, OCR and WJEC. We work with the regulators of these qualifications in Wales (DfES) and Northern Ireland (CCEA) to ensure that regulation of these national qualification suites is consistent in the three countries.

We wrote to each awarding organisation offering GCSEs and A levels on 7th June 2011, having been alerted to some errors in separate question papers. The letter required assurance from the awarding organisations that additional quality checks had been implemented to ensure there were no further errors in question papers that were still to be sat that had not been identified by the awarding organisations' previous quality assurance processes. Each awarding organisation provided us with written assurance by 13th June that such additional quality checks had been or would be made before the papers were sat.

Following the receipt of these assurances, two further errors affecting all candidates that sat the paper were identified. We considered that the most serious original errors were unacceptable, given their impact on candidates. However, these subsequent incidents were considered to be particularly concerning because they called into question the assurances given to us and in turn the robustness of awarding organisations' quality assurance arrangements. When notified of the additional incidents, we took immediate steps to require each awarding organisation to confirm the actions that had been taken in relation to the remaining examinations in the summer season and took additional measures in relation to one awarding organisation. In addition two printing errors affecting some candidates that sat the paper were identified.

By the end of the summer 2011 examinations series, 12 question paper errors – which include the errors mentioned above – involving examinations offered by AQA, Edexcel, CCEA, OCR and WJEC were identified.

Our priorities during the examination series were to:

- Require the awarding organisations to ensure there were no further errors
- Ensure that the marking of those papers that included errors did not, as far as possible, unfairly advantage or disadvantage the candidates concerned.

Inquiry terms of reference

On 1st July 2011, we initiated an inquiry into the errors to:

- Establish the facts and ascertain the root causes of the errors

- Consider how effectively the awarding organisations communicated with candidates, centres and other stakeholders
- Identify any improvements necessary in awarding organisations' procedures
- Consider the arrangements for risk management and redress that should be used in the future and any implications for the regulatory arrangements to hold awarding organisations most effectively to account.

The 12 known examination errors involving examinations offered by AQA, Edexcel, CCEA, OCR and WJEC are included within the scope of the inquiry. The inquiry is also considering a serious complaint about instructions to centres regarding the use of a particular coursework mark scheme.

The inquiry is looking at the systems and procedures for the development and production of question papers used by all the awarding bodies that offer GCSE and A level qualifications. This includes ICAAE.

The full terms of reference for the inquiry can be found at www.ofqual.gov.uk/files/2011-07-08-exam-errors-inquiry-tor.pdf

Our oversight of the examination system

Each summer examinations period requires the awarding organisations that offer GCSE and A level qualifications to¹:

- Set over 60,000 examination questions
- Employ and train 50,000 examiners and moderators
- Mark over 25 million separate examination scripts and items of coursework
- Issue over 8 million GCE (AS and A level) and GCSE results.

Each awarding organisation is responsible for the successful delivery of its qualifications and each awarding organisation must have the expertise and other resources to fulfil this role.

We regulate the awarding organisations that offer these qualifications to check that each awarding organisation is exercising their responsibilities fully and properly, and will intervene if we find weaknesses in their approaches. Alongside the General Condition of Recognition a number of additional regulatory requirements currently

¹ Source: JCQ *The Scale of the Examination System in England, Wales and Northern Ireland* and JCQ press release 16th September 2011.

remain in place, such as the 'Code of Practice'². This aims to promote quality, consistency, accuracy and fairness in the assessment and awarding of a number of qualifications including GCSE and A levels. The Code of Practice also aims to help to maintain standards, both within and between awarding organisations and from year to year. It lays down agreed principles, processes and practices for each awarding organisation for the assessment and quality assurance of qualifications covered by the code. In particular Section 3 of the Code of Practice sets out what the awarding organisations must do to produce high-quality question papers, tasks and marking guidance.

Alongside the regulatory requirements we have operational arrangements to track and oversee delivery of examination series. We meet with the awarding organisations regularly to confirm progress towards the successful delivery of each examination series. Each awarding organisation is required to submit data showing its progress in delivering examinations and results, and to inform us if it perceives any threat to the successful delivery of examinations and results. In the event of any problems, our priority is to ensure that, as far as possible, no candidate is unfairly advantaged or disadvantaged.

Actions taken by us in response to the examination errors

During the examination period we initiated a range of actions. The main purpose of these actions was to ensure candidates, parents, centres, higher education institutions (HEIs) and other stakeholders could have confidence that everything that could be done had been done to make sure that, as far as possible the risk of further live error was reduced and candidates were not unfairly advantaged or disadvantaged by the errors. A summary of the actions taken is provided below.

- 7th June 2011 – We required each awarding organisation offering GCSEs and A levels to carry out additional checks on the examinations yet to be sat and to provide written assurance to us by 13th June 2011 that these checks had been undertaken.
- Following the discovery of further errors after assurances had been received from the awarding organisations, we met the Chief Executives of all the awarding organisations to again ask for confirmation that there would be no more avoidable errors and took additional measures in relation to one awarding organisation.

² The GCSE, GCE, Principal Learning and Project Code of Practice (2011) can be accessed via the following link: www.ofqual.gov.uk/for-awarding-organisations/96-articles/247-codes-of-practice-2011

- 22nd June 2011 – We issued a statement on our website to provide assurance that, as far as possible, candidates would not be unfairly disadvantaged or advantaged by the errors. The statement also provided guidance to candidates on what to do if they felt their performance may have been affected by the errors.
- On the 1st July 2011 we launched an inquiry into the examination errors.
- 7th July 2011 – We met with the National Union of Students (NUS), Universities and Colleges Admissions Service (UCAS), Universities UK (UUK) and Supporting Professionalism in Admissions (SPA) to give student representatives and the admissions community an opportunity to express their concerns and needs as they prepared for the publication of A level and GCSE results in August.
- We maintained regular contact with UCAS and HEIs. We also provided them with detailed information regarding which AS and A2 papers were affected, and the redress actions the awarding organisations had implemented in response to the errors.
- During July and early August we oversaw the actions that each awarding organisation was taking in relation to the errors and on the 5th August 2011 we issued a statement confirming we were satisfied that everything that could be done had been done to make sure that, as far as possible, candidates had not been unfairly advantaged or disadvantaged and that there was a level playing field. We also published a message to HEIs at the same time.
- 9th August 2011 – We published a message to candidates, parents and centres ahead of the publication of results to: explain the actions we and the awarding organisations had taken; to provide reassurance regarding the fairness of grades; and to provide advice on the action to take if they were unhappy with their grades.

The awarding organisations and their representative body, the Joint Council for Qualifications (JCQ), also issued their own statements as well as details of the redress actions they had implemented.

The redress actions taken by the awarding organisations varied depending on the nature and circumstances of the error as a single approach may not have secured the desired outcome that as far as possible candidates were not unfairly advantaged or disadvantaged by the errors. The actions taken included any of the following measures, or combination of measures:

- Adjusting the mark scheme to omit the question concerned for all candidates (with the total mark of the paper amended accordingly) or giving all candidates credit for that question

- Revising the mark scheme to enable credit of alternative correct answers that candidates might have provided as the result of the error
- Conducting a statistical review of how an error has impacted on the demand of the paper for all candidates, so as to inform the setting of grade boundary requirements for that paper
- Applying special consideration to individual candidates where the awarding organisations' analysis of candidates' performance indicated that particular individuals' performance had been significantly affected by an error when compared to performance on other examinations in the same subject
- Applying special consideration in response to requests from schools or colleges who stated that an individual or groups of candidates had been particularly disrupted or adversely affected by an error.

Inquiry approach and work completed so far

The inquiry is progressing in line with the timetable set in the inquiry terms of reference. This section outlines the work that has been completed in the initial fact-finding phase of the inquiry.

Awarding organisation visits

We visited the offices of the awarding organisations that offer GCSE and A level qualifications – AQA, CCEA, Edexcel, ICAAE, OCR and WJEC – between 6th and 28th September 2011. The purpose of the visits was to undertake an initial fact-finding exercise to:

- Establish the facts and ascertain the root causes of the errors that are within the scope of the inquiry
- Review awarding organisations' existing processes and quality assurance procedures for the production of question papers
- Collect evidence to enable the inquiry to assess how effectively the awarding organisations communicated with candidates, centres and other stakeholders.

All awarding organisations cooperated freely with the inquiry teams and the awarding organisation staff interviewed have been open and candid.

In addition to making these visits, we also required the awarding organisations to provide procedural, quality assurance and risk management documentation, as well as information on the number and type of question paper errors identified in the 2009, 2010 and 2011 winter and summer examination series.

Evidence from key stakeholders

We invited key stakeholders to submit written evidence. In particular, we asked stakeholders to provide evidence in relation to the following issues:

- How and when the errors first came to light
- How the errors were dealt with by centres and any instructions given to candidates during the examination at the point the error was discovered
- How candidates dealt with the errors and the impact the errors had on them during the examination
- The effectiveness of the awarding organisations' communications.

Respondents generally acknowledge that there was significant effort during the summer to mitigate the negative impact of the errors, and most are of the view that awarding organisations took adequate steps in informing centres of the steps they were taking in relation to questions containing errors. Stakeholders have raised some concerns including: the technical nature of awarding organisations' communications regarding redress mechanisms; the impact of errors and use of erratum notices on candidates; and the clarity of action required of centres when live errors occur and the advice which should be issued to candidates.

A detailed analysis of the feedback received will be included in the final report and will inform the inquiry's recommendations. Stakeholder feedback has informed the issues set out below to be more fully explored during phase two of the inquiry which includes further work on the effectiveness of the redress mechanisms adopted by awarding organisations.

Awarding organisations' internal investigations

Awarding organisations conducted their own investigations into the nature and cause of the errors. The Joint Council for Qualifications (JCQ) issued a statement on 16th September 2011 providing a link to the awarding organisations' internal investigation reports. The statement set out the awarding organisations' view that the examination errors this summer did not point to systemic problems with the examination delivery system but rather the number of errors reported in 2011 represented an unusual cluster of unrelated errors.

Nature and causes of the question paper errors

On the basis of the work completed so far and the evidence collected, we have been able to establish a factual account of the nature and cause of the individual question paper errors. The awarding organisations have confirmed that our account is factually accurate, a summary account can be found at Appendix 1.

Actions being implemented by the awarding organisations

We have established that awarding organisations are implementing additional quality assurance measures to identify and remove any further errors from the November 2011, January 2012 and June 2012 papers. These papers are at an advanced stage of production. For example, in many cases the printing of January 2012 papers has already started and may be completed before this interim report is published. The additional quality assurance checks include:

- A second check of the paper by a subject specialist who was not involved in the production or evaluation of the paper (in addition to the checks undertaken by the scrutineer when the question paper was developed). This includes working the paper as well as proofreading the paper
- The recruitment of a professional proof reader to proofread all question papers
- Requiring the principal examiner to check the final printed version of the question paper and confirm it is error-free
- Improved change and version control practices
- The audit of external suppliers' (for example, printers') quality assurance processes
- Additional training for awarding organisation staff and examiners.

Awarding organisations are also working on implementing longer term actions to improve the quality of question papers, some of which began before the errors were discovered in this summer's papers. These actions include:

- Analysis of the nature and causes of errors in questions papers
- Improved guidance for examiners involved in question paper production
- The use of templates and checklists to reinforce desired behaviours at the start of the question paper setting process
- Changes to organisational structures and management arrangements to improve the interface between different departments and suppliers that have particular responsibilities within the question paper production process.

Issues to be considered in the next phase of the inquiry

Informed by the work completed in the first phase of the inquiry, we have identified a number of emerging areas for improvement. We are identifying the steps that either

we or awarding organisations can take to deliver better quality examination question papers with an error rate as low as humanly possible. These include:

- Tighter management of the question paper production process and the interface between examiners, awarding organisation staff and third-party suppliers
- Greater clarity around roles including the role of the question paper evaluation committee (QPEC), responsibilities, ways of working and ultimate accountability for the quality of examination papers
- The impact and management of late changes to the paper production process
- The improvement of quality controls during the question paper drafting process
- Enhanced risk assessment and management.

The communication and protocols with stakeholders in the event of an examination error during a live examination series is a separate but related potential area for improvement.

Relating to the areas for improvement we have identified a number of issues which require further consideration in the next phase of the inquiry to enable us to establish clear recommendations to deliver better quality examination papers. The issues relating to current awarding organisation activities and processes include:

- Whether existing risk management arrangements adequately deal with the challenges of developing question papers for particular subjects as well as the potential for errors to be introduced through the question paper modification process
- The strategies and protocols for communicating with centres, candidates and other stakeholders when incidents occur during an examination series, including the impact of social media
- The suitability and impact of the use of erratum notices when errors are discovered before an examination
- The effectiveness of the redress mechanisms that the awarding organisations adopted in response to the errors, and how the technical detail is communicated to a lay audience.

Issues relating to our oversight of the system include:

- Identification of the potential pressure points on the examination delivery system to enable a better assessment of the risk to examination question paper production

- The feasibility of using techniques used in other industries, such as Human Error Rate Prediction, to inform the design and use of quality systems that ensure that the error rate is as low as humanly possible
- Any changes to the regulatory framework (including the Code of Practice) to ensure it continues to underpin the delivery of high-quality question papers and is consistent with our developing strategic approach to regulation.

Next steps

The terms of reference for the inquiry include the provision for further investigatory work to be undertaken if this is felt necessary in order to establish the root causes of the problems and to identify the necessary improvements. A substantial amount of evidence has been collected during the first phase of the inquiry. On this basis, we do not feel it is necessary to undertake any further detailed investigatory work.

Our priorities going forward are to analyse in more detail the evidence collected thus far in the context of the emerging potential areas for improvement and issues for consideration outlined in this interim report. We intend to publish a final report in December 2011. This report will:

- set out in detail the evidence in relation to each awarding organisation
- report on the progress of the awarding organisations' programmes of work to improve the quality of question papers
- include a set of recommendations aimed at reducing the risk of errors occurring in examination question papers, including accountabilities for actions and timescales for completion
- provide information to enable decisions to be made about any further regulatory action relating to the errors that occurred during the summer 2011 examination series for some or all awarding organisations.

Appendix 1 – Nature and causes of the question paper errors

AQA

GCE AS level Business Studies – BUSS2

An error occurred in Question 1a (ii). The question was worth three marks out of a total of 80 marks for the paper. 41,612 candidates were entered, of which 7,487 were due to complete A level.

The question required a profit figure to be in the text which was needed to calculate return on investment. The profit information was not available but a sales figure was in its place. This meant the question could not be answered.

The error was introduced in an early proof of the question paper by the principal examiner. The scrutineer sat the paper using a proof version which contained the error but did not identify that the question required the profit figure.

AS level Geography – GEOG2

An error occurred in Question 1(b) (ii). The question was worth four marks out of a total of 50 marks for the paper. 19,615 candidates were entered, of which 2,007 were due to complete A level.

The error occurred in Figure 3 which showed the nearest velocity reading to the Y label on the cross-section of a river as 0.5 when it should have read 0.05.

At the Question Paper Evaluation Committee (QPEC) meeting the principal examiner was asked to resupply the artwork for Figure 3. This request was actioned by the principal examiner. A revised diagram was sent through to the subject manager in the post-QPEC copy, who had this redrawn by AQA's graphic designer and inserted into the first proof copy; this was sent to the typesetter.

The first proof was circulated to the principal examiner, reviser, scrutineer and proof reader. Comments and changes were incorporated into a second proof and sent to the typesetter.

The second proof was circulated to the principal examiner and the chief and chair of examiners. Having reviewed the second proof, the chair and chief examiners felt the content of the artwork for Figure 3 was inappropriate as there was a change in the data on the diagram. The chair and another principal examiner offered to redraw the diagram by hand. This was the point when the error was introduced. The hand-drawn sketches were sent to AQA's graphics team who generated a new piece of artwork. The new artwork for Figure 3 – without the question – was sent out electronically to the chair, chief examiner and principal examiner for approval but no errors were detected.

AS level Computing – COMP2

An error occurred in Question 7. The question was worth five marks out of a total of 60 for the paper. 3,651 candidates were entered, of which 357 were due to complete A level.

Question 7 consisted of a diagram (Figure 5) of a computer system involving empty boxes of various sizes and arrays of lines (some dotted in different ways and some solid) leading to the boxes and having arrow heads. One line was printed shorter than it should have been.

The error was introduced between the first and second proof stage; after the QPEC meeting.

The draft of the question paper (including the diagram used in Question 7) was sent to the typesetter. The senior examiners and subject team staff were not satisfied with the quality and accuracy of the typeset version of the diagram contained in the proofs. The typesetter made the required changes but also introduced a number of changes that were not requested. These included a change to the solid line in the diagram which occurred between the first and second proofs.

The scrutineer, in accordance with AQA's procedures, reviewed the paper at the first proof stage. However, the error was introduced after the scrutineer had reviewed the paper.

GCSE Mathematics – Unit 2 43602F

An error occurred during the printing of additional supplies of the question paper. The question paper consists of 12 pages comprising 17 questions. The outside wrapper of the paper, i.e. pages 1 and 2, 11 and 12, contained the correct questions. The remaining pages 3–10 contained questions set in March 2011.

The total mark for the correct version of the paper was 66. On the incorrect version of the paper, 51 marks were for questions originally set in March 2011. 11 marks were for June 2011 questions and five marks related to the second part of Question 16 which could not be attempted. 31,659 candidates were entered, of which a maximum of 1,386 candidates sat the version with the printing error. As this paper was for a new specification candidates will have to sit at least one further examination before receiving their results in summer 2012.

An additional print run was ordered by AQA's Print Procurement section directly with one of AQA's external printers on 12th May 2011. The order was processed by the printer in accordance with the agreed procedures. Question paper plates are stored by the printer until the question paper has been sat; if during this timeframe additional copies are requested by AQA the same plates would be used (subject to their condition). The plates should then be immediately destroyed following the examination.

Printing commenced on 13th May 2011. The machine operator sourced a plate used to produce the March 2011 paper in error. This plate had the same paper code as the June paper (code 43602F) and should have been destroyed following the March 2011 examination. The normal quality checks that the printer requires to be carried out before printing commences were not undertaken.

The paper is checked at every stage of finishing the print. The references that are checked were all correct, that is, the outer four pages were correct, the folios of the inner eight pages ran on and the examination codes were correct. However, the reference code in the footer of the paper contained the date of the examination series which indicated that some pages of the question paper had the March reference code.

The printer should have sent five final printed copies of the paper to AQA for them to be checked against the original approved version of the question paper. However, for additional print runs the five printed copies were not sent to AQA.

GCSE Chemistry – CHY1AP

An error occurred during the collation of the paper which resulted in a section of the paper being duplicated. A maximum of six out of a total of 36 marks were affected. 45,685 candidates were entered, of which 137 were found to have had the version with the printing error.

The error occurred during the collation process. There are eight sections of the paper (four pages per section) which are loaded into separate bins and then brought together to form the 32 page question paper. Each bin holds approximately 250 sheets. At one point in the finishing process the same section of the paper was loaded into two bins resulting in the duplication.

There is a quality process that every 25th copy of the question paper is manually checked for general quality and pagination issues. However, this check did not identify the duplication. The printing of this paper was done in-house at AQA's Harrogate office. The office is used to handling small print runs and relies on manual checks. Given the number of papers being printed (approximately 46,000 papers), this would have meant that approximately 2,000 papers would have had to be checked manually which carries the increased risk of human error.

Edexcel

GCE Biology – 6BI01/01

An error occurred in Question 6c (i). The question was worth one mark out of a total of 80 marks. 15,784 candidates were entered, of which 1,334 were due to complete A level.

The question was a multiple choice question which asked candidates to convert an RNA sequence to a DNA sequence. The correct answer was intended to be answer A, but the last two letters of answer A were incorrect on the final version of the question paper as they were printed as "TT" rather than "AA". None of the other multiple choice answers (B, C or D) contained the correct answer.

The error was introduced at the QPEC stage. Prior to the QPEC meeting the question was an open-ended question worth two marks. At the QPEC meeting, Question 6c (i) was changed from being an open-ended question to a multiple choice question. In addition, the sequence of letters of the messenger RNA molecule was shortened.

The error was not identified during the subsequent proofreading or checks undertaken by the scrutineer. The scrutineer did not suggest any amendments to Question 6c (i) and indicated on the scrutineer's report that the question was correct.

OCR

GCE Decision Mathematics – 4736

An error occurred in Question 6 (ii). The question was worth eight marks out of a total of 72 marks for the paper. 6,473 candidates were entered, of which 2,938 were due to complete A level.

Candidates were asked to prove two expressions. However, these expressions were incorrect so were impossible to prove.

The error was introduced following the revision of the paper in light of comments made by the reviser who felt the question as drafted was too demanding. The error was introduced from the mark scheme when the question was changed from a "find" question (where the distances had to be calculated) to a "show" question (where candidates had to show how distances were derived).

The error was present in the version of the paper which was considered by the QPEC meeting but was not picked up or queried by any of the senior examiners present. A scrutineer worked a typeset version the paper and provided a report to the chief examiner as required by the Code of Practice. The scrutineer's report showed workings which matched those of the mark scheme. As the workings matched the mark scheme the scrutineer did not identify that both their workings and the mark scheme contained the same error.

GCSE Latin – A403/02

Errors were present in Questions 25, 26 and 28 within Section B of the paper. Questions 25 and 26 were each worth two marks and Question 28 was worth ten marks on a 50-mark paper. Candidates choose to answer either Section A or Section

B of the paper. 7,920 candidates were entered for the paper, of which 5,302 opted for Section B.

The questions asked candidates about a character who was not the subject of the quoted text. Questions 25 and 26 should have referred to Canius rather than Pythius. Question 28 was based on a passage by Cicero and was incorrectly referenced. The question itself correctly referred to Cicero. However, the instruction about referring to the Latin and discussing style incorrectly referred to Tacitus. The three bullet point question elements were correct and related to the Cicero passage. The third bullet point correctly referred to Cicero.

All the errors were present in the first draft of the question paper and remained undetected throughout the question paper production process.

The paper was also the subject of an additional check in response to our request for assurance regarding possible errors in question papers still to be taken by candidates. This process also failed to identify the errors.

GCE Physics – G485

An error occurred in Question 3c (ii) which was worth two marks within a 15-mark question on a 100-mark paper. 7,690 candidates were entered, of which 7,608 were due to complete A level.

There was a discrepancy in the units used in the text of the question and the diagram to which the question referred. The units in the diagram were in metres but one of the figures in the text of the question was shown as being in centimetres.

The error was introduced following the QPEC meeting. In the first draft of the question paper all measurements for this question were in centimetres. Standard practice is to perform calculations in metres. At the QPEC meeting examiners felt that to ask candidates to convert units from centimetres to metres was an unnecessary step that was not assessing the candidates' understanding of physics. The QPEC therefore agreed to change all the units in the question to metres. However, one of the units was missed, resulting in a discrepancy between the measurement in the text of the question and the one on the diagram.

The error was not identified during the proofreading and scrutiny phases of the typeset version of the question paper, which was produced after the QPEC meeting.

The paper was also the subject of an additional check in response to the regulators' request for assurance regarding possible errors in question papers still to be taken by candidates. The same check was performed on the paper as was performed at the scrutiny stage. This process did not identify the inconsistency between the question text and the diagram as the worked solution based on the diagram matched the mark scheme.

CCEA

GCE Further Mathematics – FP2

An error occurred in Question 7 (ii) which was worth two marks out of a total of 75 marks for the paper. 122 candidates were entered, of which 122 were due to complete A level. The paper was only taken by candidates in Northern Ireland.

The question included a quadratic equation which should have shown a negative rather than a positive symbol.

The error was introduced by CCEA's external printer during the typesetting process but remained undetected during the proofreading or by the scrutineer.

GCSE Business Studies – GBS2

An error occurred in Question 3(a) which was worth five³ marks out of a total of 90 marks for the paper. 3,440 candidates were entered, of which 549 were from centres in England.

The Cash flow forecast table included in the question incorrectly showed the payments total for the month of July as 4200, instead of 4300.

The error was introduced at the QPEC stage when a minor alteration was made to the Cash flow forecast table. The error was not identified during the proofreading and scrutiny phases of the question paper production process.

WJEC

GCE Mathematics – C3

Errors occurred in Questions 2 and 7(b) of the enlarged format versions of the question paper. The two questions taken together were worth nine marks out of a total of 75 marks for the paper. The error affected two candidates who were both due to complete A level.

Question 2 included an incorrect equation and in Question 7(b) a vertical line was missing from a modulus symbol in the equation.

Enlarged format question papers are produced in response to requests received from individual candidates. These papers are prepared to ensure that visually impaired candidates can access the examination.

The errors were introduced during the question paper modification process. The process includes a stage when the formulae from the approved standard version of

³ The actual error did not relate to any marks as all questions could have been answered without any need to refer to the particular cell on the table where the error was present.

the question paper have to be retyped as the electronic format in which the formulae are held is not scalable through an enlargement process.

Although one of the errors was identified during the proofreading stage the required correction was not undertaken. The continued presence of the error was not detected at the subsequent proof stage. A second error was introduced during the final proof stage even though there was no evidence of manual amendments requesting the question to be amended.

GCSE Chemistry⁴

A similar error also occurred in a modified version of a GCSE Chemistry (Higher Tier) question paper. The modified version of Question 9 included an incorrect chemical symbol. This error affected one candidate.

⁴ This error is in addition to the list of errors published by us as being within the scope of the inquiry.

Glossary

Awarding organisation – an organisation recognised by us for the purpose of awarding regulated qualifications

Chair of Examiners – an individual responsible to the awarding organisation for maintaining standards across different specifications in a subject within a qualification and from year to year

Chief Examiner – an individual responsible to the Chair of Examiners for ensuring that the examination as a whole – including both internal and external assessment – meets the requirements of the specification and maintains standards from one year to the next

Enquiry about result – a process through which an awarding organisation may be asked to check one or more of the steps leading to a reported result

Mark scheme – a scheme detailing how credit is to be awarded in relation to a particular assessment unit or component; a mark scheme normally characterises acceptable answers to questions or tasks or parts of questions or tasks and identifies the amount of credit each attracts

Principal Examiner – an individual responsible for the setting of the question paper or task and the standardising of its marking

Question Paper Evaluation Committee (QPEC) – the committee which the Code of Practice requires awarding organisations to convene to evaluate draft question papers/tasks

Reviser – an individual responsible for providing written comments on early drafts of question papers or tasks and provisional mark schemes

Scrutineer – an individual responsible for checking the final drafts of all question papers and tasks

Special consideration – procedures that may result in an adjustment to the marks of candidates who have not been able to demonstrate attainment because of temporary illness, injury, indisposition or an unforeseen incident at the time of the examination

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First published by the Office of Qualifications and Examinations Regulation in 2011.

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