



Investigation Report

OCR Clerical Errors – Summer 2011 Exams



September 2012

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Foreword

All students sitting exams expect their answers to be marked accurately. They also expect those marks to be calculated correctly.

We expect all exam boards to have in place effective systems to minimise the risk of students receiving the wrong marks or grades, and to ensure there is little or no room for administrative error.

In the summer of 2011, more than eight million students were awarded A and AS levels and GCSEs. Of these Oxford Cambridge and RSA Examinations (OCR) made over 1.6 million awards, based on marking four million scripts.

We cannot expect a system on this scale to be entirely error-free. However it is entirely appropriate to expect exam boards to do everything possible to minimise the risk of error and make sure that all their systems and processes deliver the right results.

It took a series of revelations by a member of warehouse staff who became a whistleblower to identify system failures and gaps in OCR's processes in summer 2011, leading to the wrong marks being awarded to a significant number of students.

We have conducted a full and detailed investigation into each of the matters of concern raised and we have issued a formal direction, instructing OCR to make improvements and changes in the way it operates.

We now have the power to fine exam boards that breach the standards we set. The issues which are discussed in this report pre-date the legislation which gave us the power to fine, and we are therefore unable to impose a financial sanction. We can direct an awarding organisation to take specific actions, and we are doing that here.

It is vital that we maintain confidence in our exam system. Exam boards must ensure the highest standards of governance and world-class systems and processes, to minimise the risk of problems such as clerical errors occurring. We will not hesitate to use our full powers, where necessary, to ensure that this happens.



Glenys Stacey

Chief Regulator

Introduction

1. Students sitting exams expect their exam answers to be marked accurately and added up correctly. We expect exam boards to have effective systems in place to minimise the risk of students receiving the wrong results. As an additional check and balance, schools can request access to exam scripts if the result does not look right and can ask for students' scripts to be remarked or clerically checked. These additional checks sometimes result in changes to marks and the grade awarded to a student.
2. During the summer 2011 exam series, over 2.5 million GCE A level (AS and A level) and over 5.8 million GCSE qualifications were awarded in England, Wales and Northern Ireland. One of the exam boards, OCR, made over 1.6 million of these awards. OCR marked approximately four million scripts. About three-quarters of these were marked online, the rest were marked directly from the students' paper scripts. OCR is part of the Cambridge Assessment Group.

Purpose and scope of this report

3. In this report we document our investigation into the "clerical errors" which came to light following information from a whistleblower working on OCR scripts, for summer 2011 exams.
4. We set out here the context for the GCE and GCSE sector, include a summary of the events at OCR last summer, and describe the features of the processes used within OCR and how these led to the mistakes. We also set out the improvements that OCR has since made to minimise the risk of such mistakes happening in future. We also set out the redress for students. We look at the ways in which other exam boards tackle this issue. Finally we set out the regulatory action we have taken.

What went wrong?

5. Following the release of exam results in the summer of 2011 it became apparent that there was a problem with the adding up of marks on some exam papers within OCR. It was first noticed by warehouse staff who were scanning scripts to be sent to schools and colleges. These mistakes were brought to the attention of qualifications managers within OCR and eventually to senior executives. We were subsequently told about the problem by OCR and by a warehouse staff member who blew the whistle to us. It appears the timing of OCR's notification was triggered by a warehouse staff member who threatened to blow the whistle to Ofqual. These notifications led us to immediately seek clarity from OCR about what action they had taken and the scale of the problem. Subsequently, as this report sets out, further information emerged

which indicated that the scale of the problem was greater than originally indicated and that there had been a significant failure in systems and processes at OCR.

6. The exams system is a complex operation with many participants. Cambridge Assessment Group, OCR's parent company, is responsible for the physical production and despatch of exam papers and the processing of exam results when these come back from examiners. In 2011 some of these functions were relocated from one warehouse to another. This coincided with a change in process which introduced the scanning of scripts where schools and colleges had requested them. We know that OCR found 1,370 mistakes in adding up for summer 2011 exams. These mistakes resulted in changes to 251 unit or qualification grades. As we set out later, most scripts were destroyed, in line with normal processes, before the full scale of the problem was known. We therefore do not know how many or how few mistakes were contained in the scripts which were destroyed. Based on its checks in 2012 OCR has estimated that there may have been in the region of a further 2,650 mistakes which were not found and rectified. Given the proportion of changes made through the scripts which were checked, it is likely that around 500 of these would have led to unit grade changes.

How this issue came to light – sequence of events

Phase 1 – from the release of results in August 2011 to March 2012

7. After the release of OCR's GCSE and A level results in August 2011, warehouse staff employed by Cambridge Assessment Group scanning scripts to be sent to schools and colleges noticed some mistakes in the adding up of marks on scripts. These mistakes were described internally as clerical errors. Warehouse staff started referring the mistakes they found to a range of OCR qualification managers for review. This led to 26 changes during August and September.
8. We were officially informed about mistakes in adding up marks at OCR on 17th October 2011. We were told about the problem both by OCR and by a staff member within the warehouse who blew the whistle to us. As a result we immediately asked OCR about the systems in place at the time, the scope of the problem and what changes were needed to make sure that the risk of issuing incorrect results was minimised for future exams. OCR told us what they were going to do about this. We made it clear to OCR that it was their responsibility to resolve these matters, improve their systems for the future and to make sure that the warehouse staff were fully briefed.
9. We learnt that OCR had taken steps to stop the checks in September as these were outside of normal processes and had not been requested by schools or colleges.
10. These processes, called enquiries about results, enable schools and colleges to request sight of scripts, seek clerical checks or a re-mark if they have a concern about a result. In 2011 18 grades at OCR were changed as a result of EAR requests for clerical checks.
11. We considered whether or not to require OCR to check every single script from the summer 2011 exams. This would have been around one million scripts. On the basis of the information available at that time, from OCR and the whistleblower, we decided it would not be proportionate to force all one million scripts to be checked.
12. After requesting that checks were stopped we know that OCR made repeated requests to the warehouse staff to pass on any mistakes or potential mistakes that had previously been found. There was confusion between the parties about what was being sought. Some information was passed to OCR but this was incomplete.
13. An early priority for us and for OCR was to review the processes which led to the mistakes in adding up. OCR confirmed to us that they had made significant

improvements in the quality controls of adding up before the January 2012 exam series. We were able to confirm that significant improvements had been put in place by the January 2012 exam series.

14. In January 2012 we met the whistle-blower and encouraged the individual to pass on to us any further evidence of suspected problems. We shared the information that we received from the whistleblower with OCR. The new data set out suspected problems with individual candidate results and also indicated where examiners with patterns of mistakes were apparent. We told OCR that we expected them to allow the whistleblower to share his concerns with them so that they could consider whether any further amendments to summer 2011 exam results were needed. Due to concerns about his whistleblower status OCR did not engage with him directly. Nonetheless we expected that further checks on the examiners identified would be made as a result of the information provided. OCR took a risk-based approach, focusing their efforts on subject areas and examiners with the most problems. This was a reasonable response.
15. The whistleblower expected that all the examiners he identified with mistakes would have their scripts checked. OCR did not complete the extended checks the whistleblower regarded as outstanding, instead concentrating on the mistakes or markers with repeated mistakes he had identified. We also asked OCR to liaise with the whistleblower and with the warehouse team. OCR did not do this. We expected OCR to bring the matter to a close. OCR did not initially respond to a letter we sent on 7th February which set out the actions we expected to be completed. After we made further enquiries we received a response in March which detailed the risk-based checks which OCR had undertaken on summer 2011 scripts. This was not as extensive the whistleblower had expected.

Phase 2 – from end of March 2012 to mid-May 2012

16. In March the whistleblower wrote again to us asking if we were going to force OCR to extend their checks and amend any marks which were incorrect. On the basis of the information available at that time, we wrote back to say that we would not be forcing OCR to carry out further checks on summer 2011 scripts. We also set out that each exam board has a responsibility to identify and implement the actions needed to ensure candidates receive accurate grades. We stated that we considered OCR had taken a proportionate and targeted approach to responding to the risk of further undetected clerical errors. We considered the matter to be closed.
17. From 31st March we had no further contact with either OCR or the whistleblower on this matter until it came to light again in May.

18. In April OCR authorised the destruction of summer 2011 scripts in line with normal processes. We know that the whistleblower continued checking scripts where the individual felt that “extended checks” were necessary. We now know that not all scripts were destroyed in April. The whistleblower retained 49,500 scripts and a further 48,000 scripts, transferred from another warehouse, were also later discovered.

Phase 3 – May 2012 onwards

New information and allegations

19. In mid-May the whistleblower emailed 30 schools and colleges identifying 33 candidates where he perceived that a mistake had been made. As a result of this new information emerging from the whistleblower we launched a full investigation.
20. It had become clear that the issue was not simply that mistakes in adding up had happened but that there were more serious issues of working practices which were at the root of the problems. This is explained fully in the Findings section.
21. At this point the whistleblower had shared his concerns with Channel 4 News. He alleged to the programme that OCR had deliberately sought to mislead us about the “extended checks”. During our investigation we found no evidence to suggest that OCR had deliberately misled us about these extended checks.
22. As a result of the new allegations from the whistleblower, where scripts were found we asked OCR to make sure that these were kept safe and checked. They did this. OCR agreed with us that they would check every script found. To satisfy ourselves that all these checks had taken place we required independent verification. This covered scripts from summer 2011 which had been found and the outputs of the checks for January 2012 exams. This independent verification, undertaken by Price Waterhouse Coopers (PWC) and commissioned jointly by us and OCR, showed that the checks had taken place.
23. We agreed that OCR should not implement changes to results where this would result in candidates getting a lower grade than they had previously received. We also sought correction only where it made an actual or a potential difference to the grade received.

Our investigation

24. We investigated the allegations made by the whistleblower as information emerged. We also investigated what happened in OCR, identified the root causes of the problems with summer 2011 adding up, and reviewed the actions which OCR had taken. We have issued a formal direction to OCR to make a

number of changes to make sure that problems with adding up do not happen again.

25. During our formal investigation we interviewed 12 members of OCR and Cambridge Assessment Group staff, reviewed relevant email exchanges and reviewed corporate documentation from OCR relating to this matter. We saw the warehouse operation first hand and worked with PWC to make sure that the processes which OCR had put in place for checking the surviving scripts and for checking that the January 2012 clerical checks took place, were robust.

Comparing the processes used by the other exam boards

26. As part of our investigation, we reviewed the process undertaken by other exam boards, to establish whether OCR's approach was similar to or different from the approaches of the other exam boards. This showed us that the approaches of the other exam boards differed from OCR's approach.
27. One of the most significant differences we found was that AQA, Edexcel and WJEC all employ a process where, even though marking is done on hardcopy exam scripts, the marks for each question are transferred to a database, where they are totalled automatically by the system. They note that there is still scope for mistakes to occur, such as in the input of marks or where some addition in sub-parts of questions is still required by the examiner, but have quality assurance checks in place to detect and rectify these.
28. CCEA do not employ such a system, but have stated that they conduct 100 per cent clerical checks of hardcopy marking when scripts are received.
29. In comparison, OCR did not employ clerical checks themselves before January 2012, as they delegated this task to markers.
30. We know that OCR made significant improvements ahead of the January 2012 exams and that these were in place for the summer 2012 exams. These include sampling 20 scripts from each examiner to look for any mistakes in adding up. If mistakes are found, all their scripts are now checked. New procedures to make sure that marks are transferred correctly from the scripts to the front cover and then onto the results database have also been put in place.

Findings, our direction and next steps

31. In this section we focus on the problems found during the investigation which have led to us taking regulatory action.
32. The system for avoiding mistakes in adding up at OCR for summer 2011 exams and previous exams was inadequate. It relied on trust in their examiners. The only system OCR used to detect and correct clerical errors at the time of the summer 2011 series was to require examiners to employ a checker. There was no separate system to make sure that these checks had taken place or to check how effective they were.
33. When mistakes in adding up were first identified to OCR – first to middle management and later to senior management – OCR did not systematically attempt to find out the scope of the problem. OCR did not ensure that every result released in summer 2011 was correctly added up. Instead OCR relied on the information it was being passed from the warehouse and decided that they would not check each and every script. As a consequence, information came in phases to OCR and these decisions were made on incomplete information.
34. Where mistakes were identified, decisions were made by OCR about which ones would be changed. There was no precedent for looking at this so OCR decided to use the same practice where schools enquire about the results of their students. In that situation permission is sought from students because the results can go up or down. Where problems are found as a result of these enquiries, other students' results will only go up, not down, because they have not given their permission for their school to look into the result.
35. OCR also applied a “tolerance” so that only mistakes which were substantial were changed. This was based on the principle used within marking – where a small amount of variation between markers can be expected. These two filters meant that small numbers of grades were changed and notified to us. This filtering and narrow reporting meant that it was not made clear to us how significant the scale of the problem was.
36. Key decisions were made in the main as a result of informal discussions. In particular OCR's Director of Standards made a number of decisions in consultation with OCR's Chief Executive but these decisions were not documented. For example the decisions described above about “tolerances” were not documented and ratified through the senior management team or through other formal channels.
37. The structure within Cambridge Assessment means that each of the awarding organisations – OCR, CIE and Cambridge ESOL – relies on shared services

provided at group level. There is nothing inherently wrong with this approach and it can create welcome efficiencies. In this instance however there were insufficient process control and visibility over the central services by OCR.

38. Through our investigation we have identified an underlying problem at OCR in that their documented procedures for governance, risk management and notifications are too informal. This has significantly hampered their ability to look at every aspect of this problem and to resolve it. We also saw evidence of OCR wanting to draw a line under the problems in adding up from summer 2011 and focus on changing the processes rather than getting to the bottom of the mistakes. This was clearly evidenced in interview and in emails sent internally.
39. We have set out a summary of the breaches in Appendix 1. Taken together the breaches represent a failure across key parts of OCR to organise its working practices according to our General Conditions of Recognition. We considered what sanction or regulatory action was appropriate under the circumstances. We did this in light of the powers available to us last summer when this problem happened. We decided to issue a direction so that we can specify the changes needed within OCR. We issue a direction where an exam board or awarding organisation needs to take particular actions or refrain from taking particular actions. If the direction is not complied with we can enforce its terms through the courts.
40. We have directed OCR to take a range of actions to look at the processes, procedures and plans so that the way the organisation works in future makes it less likely that a significant problem such as failing to add up marks correctly on scripts could go un-noticed and then not be properly remedied. The direction focuses on core elements of change needed within OCR to secure better regulatory outcomes in future and to improve public confidence in the qualifications it offers. Our direction is set out in full in Appendix 2.
41. OCR has acknowledged these issues and the direction in full and are already taking steps to put things right. They recognise the level of change and formalisation that is needed to minimise the risk of these problems happening again. We will be monitoring the implementation of the changes at OCR closely and will be receiving regular updates from OCR which we will check. In the longer term we will expect OCR to sustain the changes made.

What OCR has done to rectify the problem

42. The key principle is that students get the right result – at the time the results are released. For GCSEs and A levels provisional results are released in August and confirmed results are given in certificates around October each year.

Improved processes

43. OCR acted quickly to put in place new quality control processes ahead of exams being sat in January 2012. These remain in place. We set out these changes elsewhere in this report and how they compare with the processes of the other exam boards. We welcome the swift action which OCR took to put this aspect of the problem right.
44. OCR took action with the examiners where it was found that there were particularly poor patterns of adding up. Four examiners had their contracts terminated and a further 77 were put on notice to improve their performance. Guidance and processes were reinforced. Not all examiners were checked.

Results changes

45. Remedying the mistakes from summer 2011 exams was less straightforward. We have set out in this report the phases of the problems, what came to light and when. This affected what changes were made for candidate results.
46. Initially in August and September, changes to grade results and marks were made on an ad hoc basis where mistakes were found. At this point grades went up and down. Twenty-six changes to marks were made in this way.
47. From October to March, OCR applied a tolerance so that only more significant mistakes were corrected. From this point forward grades were only put up. Thirty changes to marks were made.
48. In May, as a result of the thirty schools and colleges being contacted by the whistleblower, corrections were made in all 33 cases.
49. Once the 97,500 scripts which had survived in the warehouse and a further 700 identified by the whistleblower had been checked, 991 mistakes were confirmed and 187 further corrections were made where actual or potential grades needed to go up.
50. Overall OCR has changed the results for 276 candidates for summer 2011 exams. OCR has apologised to students where mistakes have been made.

Conclusions

51. This has been an unnecessarily protracted matter as information has come to light on an irregular basis and at different stages during the year. The scale of the problem as it was seen in autumn 2011 was very different from how it emerged in May 2012. This happened for a number of reasons. First it took some time for the problem to emerge within OCR as mistakes were initially found and escalated on an ad hoc basis and the response of OCR has not been as effective as we might have expected. By not extending checks on examiners as the whistleblower had expected, the full impact was not, and cannot now be known.
52. Once the problem was more widely known OCR acted quickly to put better processes in place. However the systems of governance, decision-making and risk management did not support OCR in taking control of the issue with clerical errors and make sure that all results were correct before scripts were destroyed earlier this year.
53. Our investigation and our direction have been targeted at the root causes of the problem. We expect OCR to deliver the changes set out in the direction within three months.
54. For students who have received results this summer we can confirm that the systems in use for 2012 exams have improved significantly and rely on quality control checks as well as trust.

Appendix 1: Summary of findings relating to regulatory breaches

Theme	Finding	Detail
Processes for clerical checking were inadequate (A5, A7, H5)	1	The process of paying markers to have a separate checker with no further systematic quality control was inadequate and led to incorrect results being issued for summer 2011 exams.
The scale of the problem was not understood nor attempted to be fully understood (A7, D3, H5)	2	Information about mistakes was “drip fed” from the DC10 warehouse to OCR. As a consequence of information being incomplete OCR did not demonstrate that it proactively ascertained the full extent of the issue taking a limited risk based approach rather than testing all scripts.
	3	OCR remedied specific issues identified and extended checks on a risk basis.
Late and inadequate notification (B3.1, B3.2)	4	It took several weeks for OCR staff to connect up the ad hoc reporting of mistakes and to escalate it internally.
	5	It took nearly 3 weeks from senior management being aware of the problem for OCR to inform Ofqual. That notification was triggered by a Cambridge Assessment staff member threatening to come to Ofqual. The notification was not seen as within the definition of what should be notified.
	6	The initial notification set out only the grades which were changed, it did not set out the scope of confirmed mistakes where the decision was to not change the result.
Flawed governance and accountability model (A5, B1)	7	The evidence from the minutes of various Corporate forums such as SMT meetings and the OCR Board highlights that pivotal decisions such as agreeing the scope of any grade changes to be made, checks on examiners’ work to be extended and not to fully understand the scale of the problem were made outside these forums.
	8	The authority for decision making was clear in practice but not documented
	9	Risks around reputational interest were given more prominence than risks to standards in documented reporting to corporate forums
Significant failings	10	There are gaps in risk management process

Theme	Finding	Detail
in risk management and risk culture (A6)		apparent at OCR. The SMT oversight of risk appears minimal and remains under development.
	11	The problem of endemic mistakes being made in adding up by markers which were not being remedied by the checkers was not identified in advance. When the problem arose insufficient notice was taken by OCR of the consequences for summer 2011 learners and their results.
Third party relationship (C1)	12	Lines of accountability between the Cambridge Assessment warehouse facilities and OCR were ineffective. OCR's CEO does not have complete end to end process control due to the corporate structure.
	13	There was a significant break down in relationships between OCR and some DC10 staff and a concern about engaging directly as a result of the whistleblower status of one member of DC10 staff.

Appendix 2: Direction

OCR is an awarding organisation regulated by the Office of Qualifications and Examinations Regulation ('Ofqual') and is subject to the General Conditions of Recognition, 2012 ('the Conditions') and the GCSE, GCE, Principal Learning and Project Code of Practice May, 2011 ('the Code of Practice') issued by Ofqual, Welsh Government and CCEA.

It appears to Ofqual that:

- (1) For the Summer 2011 award of qualifications adequate practices and procedures or sufficient controls were not in place to ensure that all qualifications awarded to learners accurately reflected the marks or attainment they had obtained in their assessments / examinations,
- (2) Once concerns were raised that marks had not been appropriately awarded inadequate internal governance procedures were in place to identify and manage the adverse effect.

Ofqual directs OCR to:

1. Take all necessary steps to make sure that the practices and procedures deliver accurate qualification results by 21st December 2012,
2. Review the appropriateness and documentation of its systems of planning, internal control and escalation to ensure that the award of qualifications is delivered effectively by 1st October 2012 and ensure it has made all the necessary revisions to these systems and the documentation by 21 December 2012,
3. Review and provide an implementation plan to revise each of OCR's following processes by 1st October 2012, with implementation by 21st December 2012, to ensure they are fit for purpose and operating in line with the Conditions:
 - (1) Identification and management of risks,
 - (2) Management of incidents,
 - (3) Notification of adverse effect events,
4. Document the decision making accountabilities of the senior team so that accountabilities are clear and the CEO has end to end control by 1st October 2012,
5. Ensure that where OCR arranges for a third party to carry out the award or part of the process for the award of qualifications on its behalf such arrangements are in accordance with the Conditions and it is able to monitor and enforce such

arrangements within the Cambridge Assessment Group by 1st October 2012 and with all third parties by 21st December 2012,

6. In the event that a further adverse effect occurs ensure that in practice OCR gives priority to the provision of the accurate and timely award of qualifications, and
7. Submit a revised statement of compliance authorised by the OCR Board, which addresses the issues set out above, by 17:00 on 30th November 2012 which sets out the position of compliance at that point in time and sets out the steps OCR are intending to take to put things right together with the timescale, if relevant, for each step to be completed.

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