

Cambridge Nationals

ICT

Level 1/2 Cambridge National Award in ICT **J800**

Level 1/2 Cambridge National Certificate in ICT **J810**

Level 1/2 Cambridge National Diploma in ICT **J820**

OCR Report to Centres January 2015

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the examination.

OCR will not enter into any discussion or correspondence in connection with this report.

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External Examination (R001)

The January 2015 paper proved to be very accessible, with candidates scoring well across the paper. The first question proved to be a very effective settler for candidates, many of whom achieved close to full marks for this question. Question 5 required an extended answer and was, again, well answered by many candidates. Candidates' ability to answer longer questions, and, in doing so, draw together a number of different arguments, has improved radically over the series and answers to these questions now contribute well to the overall score of many candidates.

It was noticeable that the number of candidates who do not attempt every question has fallen again from last year. This highlights the improvement in candidates' examination technique and leads to candidates accessing more of the marks available across the paper. Candidates are becoming more able to demonstrate what they know and understand even if one or two knowledge gaps still remain.

Finally, as with previous series, the extent to which candidates are answering in context is pleasing to note. With any applied paper, context is important and the mark scheme takes account of this. Clearly, where candidates have a good awareness of context, this allows them to have a better understanding of the case study and, therefore, affords them better opportunities to achieve a higher mark.

Question 1

This first question tested candidates' general understanding of the range of devices that could be used within Image Reflections. Candidates generally scored highly on this question.

Question 2

Candidates needed to understand the difference between a reference number and a file name for this question. Where candidates did not appreciate this difference, the answers were confused, especially for question 2b(ii). Question 2a was well answered by the vast majority of candidates, although some did give the answer as SMIT TENT, failing to realise that the reference included letters and digits. Many candidates gained two marks for question 2b(i) by demonstrating understanding but failing to give an example. As any form of relevant example was acceptable, this represented a missed opportunity to achieve marks for some candidates.

Question 3

This question was answered well. Many candidates showed a good technical understanding of how cookies work as well as a sound understanding of the legal requirements placed on websites that use them.

Question 4

Where candidates focussed on what was on the feedback form, as instructed, they did well for question 4. However, where candidates identified additional items they thought could be included, other than the need for a 'submit' button or instructions on how to use the form, marks were not awarded as this did not answer the question. As the form had been clearly identified as a web-form, the absence of a submit button and instructions were accepted as relevant issues.

In order to improve the marks for such questions even further, candidates would do well to practice their ability to 'explain' identified issues.

Question 5

Many candidates correctly identified the need to identify good and bad points when answering this question. However, there also continues to be a number of candidates who provide lists with no expansion. Clearly, the use of a list can be a good tactic for some candidates and, in some instances, these lists can include a degree of description and thereby move the candidate into Level 2 marks. However, in order for candidates to be secure in Level 2, they must be able to at least describe the relevant issues. Many candidates were able to do this and were awarded marks in Level 2 but marks in Level 3 still remain relatively rare.

Section B developed the scenario from that established in Section A. The specific focus was the work of Sean.

Question 6

It is clear that many candidates had a good understanding of the use and benefits of Diary Management Software, possibly as they had been required to use it in preparation for this examination. Such practical understanding of key concepts is pleasing to see, especially when it then translates into good scores in the examination.

Question 7

This question focussed on working with graphics files. A significant issue in question 7b was that many candidates tried to describe how the tools could be used by using the name of the tool itself (such as giving the description of the rotate tool as a tool to rotate). In order to achieve the marks available, candidates needed to describe these features in terms other than simply restating the name of the tool. Many candidates failed to appreciate that the zoom tool is used fundamentally as part of the editing process and appeared to confuse it with enlargement.

A significant minority of candidates knew the importance of storing files in proprietary format.

Question 8

Question 8a was well answered, although question 8b proved to be more of a challenge. Where candidates had attempted the question, many were able to achieve at least one mark by demonstrating some, albeit limited understanding of how a firewall operates.

For the final question, only answers that dealt with how the proof photograph could be formatted were awarded marks. A significant majority of candidates were able to gain marks by stating that the photograph could be watermarked or the resolution reduced. However, other candidates wrote about measures such as protecting the CD or having the photographs only available on a website, which are not methods of formatting and so were not awarded any credit.

Moderated Units (R002 – R011)

Only moderated units, submitted either by post or through the use of the OCR Repository, are included in the January series. Unit-specific comments at the end of this report cover R002 to R009 as entries for other units were not high enough to make detailed comments possible. Comments for R010 and R011 can be found in previous June session reports.

Most of the issues identified by moderators were similar to those seen in previous series and centres are recommended to refer to previous Chief Examiner's reports for commonly occurring issues.

Whilst most centres submitted their marks to OCR by the required deadline, many did not send the moderator copies and Centre Authentication Form (CCS160) at the same time. This process is explained in Section 8.6 of the 2014-15 Admin Guide and Entry Codes document for Cambridge Nationals qualifications. Centres are requested not to wait until the sample is requested before sending this information to the moderator. Centres are reminded that where there are 15 or fewer candidates, the work of all candidates should be sent to the moderator, without waiting for a sample request email.

Most centres chose to submit their evidence by post or through the OCR Repository but centres that chose visiting moderation appreciated the opportunity to meet the moderator and to ensure electronic files were viewed on the centre's equipment.

Where repository entries were made, some problems were encountered because files were not uploaded using the naming convention outlined in the OCR Repository Centre User Guide. If loading files for multiple candidates, they must be named using the following format: 4-digit candidate number followed by an underscore, followed by any other text. For example: 1001_specification. This is so the system can 'map' the file to the correct candidate. In this session, several centres had to be asked to re-upload their candidate work to ensure the correct files could be seen by the moderator for each candidate. Some centres experienced difficulties uploading files to the repository because they exceeded the 20Mb limit. In such cases a postal entry should be made and files submitted on DVD/memory stick.

Most centres correctly completed an OCR Unit Recording Sheet (URS) for each candidate to show the marks allocated. For repository entries these should be uploaded with the candidate files, rather than in the administration area. Where centre staff added comments to show why each mark had been awarded and where specific evidence could be found this helped the moderator agree with centre marking and provide more detailed and relevant feedback. Regrettably, many centre comments were less helpful as they tended to restate or reword the assessment criteria rather than explaining why it was felt that these criteria had been met.

Some candidates demonstrated a good range of software skills and creative thinking, especially in the optional units, although the documentation produced by candidates did not always match the quality of their final products, with specifications and testing often being weaker areas.

There was concern that candidates from some centres had been provided with additional materials and guidance, over and above that which is permitted. Whilst formative assessment should be an integral part of any teaching programme, formal assessment for this qualification must be summative, i.e. it must take place once the candidates have completed their learning and been assessed as ready to undertake the assignment independently. Candidates should be provided with the OCR Model assignment and a copy of the marking criteria for the unit when completing the assessment and teachers may explain the marking criteria to them. Centre staff may give candidates support and guidance that focuses on checking that they understand what is expected of them and giving general feedback that enables them to take the initiative in

making improvements, rather than detailing what amendments should be made. Writing frames and specific design guidance must not be provided.

Some printed evidence, most particularly where this was contained within screenshots, PowerPoint slides and/or spreadsheets, could not be read by the moderator because it was too small or because of insufficient colour contrast and/or draft printing. Centres should ensure all evidence sent to the moderator can be easily and clearly read. In some cases this can be achieved by supplementing printed evidence with electronic files. Some centres submitting electronic evidence included scans of hand-drawn designs which were of insufficient quality for details to be read. Centres are reminded that they must send to the moderator the same evidence that has been used within the centre for assessment purposes. In some cases centre comments suggested that internal marks had been awarded on the strength of evidence other than that provided to the moderator. Centres are reminded that both paper-based and electronic evidence can be submitted when choosing either postal or visiting moderation.

Problems were encountered with electronic evidence submitted by some centres where the guidance in Appendix C of the specification had not been followed. It is essential that clear guidance is provided to moderators to show which files need to be opened, in which order, for each section of the marking criteria. Where the files are not clearly indexed, this information should be provided using the Unit Recording Sheets. Some files submitted by post or through the OCR Repository could not be opened by moderators, usually because the file format was not appropriate. Some files required non-standard fonts and so could not be opened as needed. Where candidates had been taught to export documents into PDF format this generally solved any compatibility issues.

Some centres' marking was found to be over-generous at the higher levels because key words such as 'most', 'thorough' and 'detailed' had been misinterpreted. The glossary in Appendix D of the specification document provides useful guidelines in the interpretation of key words used in the assessment criteria for the units.

Many centres are now relying on electronic files for evidence, in postal submissions as well as those using the OCR Repository. Some centres submitting work electronically by post also included printed copies of the URS for each candidate in the sample, which was much appreciated by moderators. Centres are reminded that postal submissions allow a mixture of paper-based and electronic evidence, so there is no need to scan hand-drawn designs, so long as any hard-copy materials are clearly labelled to show which candidate they belong to and what evidence they include.

Where centres used electronic evidence some problems were encountered when candidates had changed or deleted files. It is essential that JCQ requirements regarding the secure storage of work after it has been handed in for marking are met for electronic, as well as paper-based evidence.

Specific comments on the units submitted.

R002

As the only mandatory unit for both Award and Certificate, this unit comprised the majority of entries this session.

A number of centres had used the newer 'JB Clothing Emporium' ('Tailored Tops') assignment whilst the majority had used the original 'MStreamIT' assignment. Both continue to be acceptable. Both assignments provide a vocational scenario within which the work should be carried out. Where candidates remained aware of this throughout their work they generally produced more appropriate outcomes.

Some problems were encountered where no evidence could be found to support criteria credited by the centre, most particularly in Learning Outcome 1, where the file structure and search criteria used need to be assessed. Centres are reminded that moderators can only make judgements on evidence that is submitted. Centre staff may advise candidates about the evidence they need to provide in their portfolios, as outlined in section 3 of the Tutor Notes within the Model Assignment. If candidates do not provide screenshot evidence of their folder and filing structure, teachers can supplement printed evidence with the electronic files from candidates' user areas if necessary. Whilst writing frames may not be used, centres should remind candidates of the need to provide evidence of search criteria used. Where candidates' evidence of filing structures showed folders but not the files within them, it was often not possible to agree centre assessment decisions.

Whilst most candidates were able to demonstrate a reasonable knowledge of how to use email tools, this was not always shown within the context of the assignment task and examples did not always demonstrate good business practice. Some candidates produced lists of email etiquette rules but then failed to demonstrate any understanding of the importance of these in the emails they included as examples.

Many candidates chose to use standard source tables to show their sources of information and were often disadvantaged by this choice, as the headings on a standard table are unlikely to fully match the specific requirements of an assignment. In most cases candidates using such generic tables identified the URL and whether or not the item was copyrighted but did not identify any details of the copyright holder, which is what the assignment and marking criteria require. Since it is not permissible for a centre to provide specific writing frames for an assignment and a standard source table is unlikely to fully meet requirements, centres might wish to advise candidates not to use standard source tables but to create their own documents from scratch – this would have the added advantage that if they chose to create a table they would be demonstrating additional capability within Learning Outcome 3. Some candidates were over-generously credited with understanding copyright when they simply identified URLs or provided details from third-party websites rather than copyright holders.

Some centres awarded marks over-generously in Learning Outcome 2 when candidates had completed all the data handling tasks but not obtained accurate results. Centres are advised to work through the tasks themselves, to enable them to check the accuracy of candidates' results. Errors in consistency and case within database amendments were commonly ignored in centre marking but would be important to a company.

Although candidates from some centres using the MStreamIT assignment created a range of different products for the item of publicity required in Task 2, most submissions were limited to one style of item, often a simple page of text and graphics, sometimes with no obvious function. This demonstrated little creative thought on the part of the candidates and often limited the range of file types produced. It is expected that candidates will have been taught the range of software tools listed in the specification, allowing them to select the type of promotional item they think will be most effective.

Candidates using the JB Clothing Emporium assignment generally created some creative PowerPoint slideshows, although some merely copied the instructions rather than creating their own text that met the client's requirements.

There are some generally agreed standards for a business letter and many candidates were over-generously assessed when their letters would not have been acceptable in a business environment. Common errors were to omit the date or put it in the wrong place, to be inconsistent in the use of paragraph spacing and to use inappropriate salutation and/or valediction.

Marks in the highest mark band of Learning Outcome 4 were sometimes over-generously awarded by centres when candidates had used only a limited number of formatting tools and, whilst what they had done had enhanced the readability of the work, much more could have been done to make it more appropriate. The specification provides a list of formatting techniques that candidates should be taught and it is expected that a wide range of techniques will be evident in the work of candidates scoring highly in this area. Where candidates had used formatting to improve some, but not all, of their work, full marks in mark band 2 were sometimes over-generously awarded by the centre.

The level of independence when formatting work is assessed in Learning Outcome 4. Many centres provided no evidence for this. Where centres made a comment on the unit recording sheet that clarified any support given, this was helpful and appropriate.

R003

Most centres appropriately provided the electronic spreadsheet file as part of the evidence for this assignment. Where this was not provided it was not always possible to clearly ascertain the overall structure created by candidates, nor the consistency and appropriateness with which some tools, e.g. validation, comments and conditional formatting, had been used. The overall appropriateness of the final product is key to assessment, rather than simply evidence of using different tools. When sending electronic files, centres are requested to inform the moderator of the version of software used, as some features such as drop-down lists may not work on earlier versions than that used by the candidates.

Many candidates produced effective solutions that met many of the requirements in the model assignment, although few considered the issue of enabling new customers and new products to be added. Where macros were included these were largely for fairly generic purposes such as navigation between sheets and simple routines such as saving and printing. Some created macros for routines such as printing for which there is already a software button, in which case they added little if any functionality to the solution.

A few candidates had given a lot of thought to ways in which their solutions could be made user friendly, but most solutions could have been significantly improved in this area and marks in band 3 of Learning Outcome 1 were often over-generously awarded by centres. Whilst most candidates were able to apply formatting to emphasise headings etc in their spreadsheets, few used it well to help users understand how to use the spreadsheet, e.g. to identify clearly those cells where data needed to be entered and those which contained formulae and so would be automatically updated. Use of comments and input/error messages was often limited and few candidates added any instructions/explanations for the user. The best solutions ensured that the invoice would fit onto a sheet of paper when printed, with some candidates adding appropriate headers/footers.

Candidates did not always provide explanations for their choices of formulae and modelling techniques that matched the quality of their solutions, thereby lowering their overall mark. Centres often over-generously awarded marks where candidates had described what they had done or what a formula did rather than explaining why these methods/tools had been used. An efficient solution is one where the user is not expected to enter any more data than is necessary, also where functions are used correctly and where future changes, e.g. VAT rate, discount policies and delivery policies, can be made easily by the user without ever having to edit formulae. Many candidates appear to be confused about the use of the SUM function, using it unnecessarily in most, or all of their arithmetic formulae. Candidates who had used LOOKUP functions in their invoice but had no method of avoiding errors if lines were blank were sometimes over-generously assessed by centres.

The first part of Learning Outcome 3 – sorting, filtering and creating graphs – was generally completed very well by candidates and assessed accurately by centres, although some

candidates did not provide clear evidence of the outcome of their sorting and filtering. Most candidates attempted some of the modelling scenarios, although few provided a range of solutions where these were required. Where candidates did provide a range of solutions they rarely considered how to present this information to the customer, although some did use the scenario manager tool, which summarised the results, albeit usually requiring a little additional explanation to enable them to be fully understood. Marks in this last section of Learning Outcome 3 were often limited by a lack of explanation of the results and of the tools used. Many candidates appropriately used the goal-seek tool, but candidates from some centres were over-generously assessed when they had not made any use of advanced modelling tools such as this.

R004

Where candidates submitted their final databases in electronic format this provided the clearest evidence of the structure of their solution, including all field names, types, lengths and validation/input masks used, which is difficult to achieve in a purely paper-based portfolio. Centres are requested to provide moderators with the name and version of any database software used.

The key to success in this unit is an effective table structure. Where candidates' enforced referential integrity within their solutions they were able to ensure that the links were functional and some realised that this formed a key part of their testing process. Where referential integrity could not be enforced, this demonstrated a fundamental flaw in the structure. Centres are recommended to ensure candidates are taught to enforce referential integrity and to interpret any error messages that might be encountered at this point.

Most candidates demonstrated a good understanding of validation, although sometimes the validation set was not consistent with the data provided and/or the scenario, demonstrating a lack of testing. Some candidates provided only one or two examples of validation, concentrating on showing that they knew how to set rules rather than using validation to minimise data entry errors in the scenario provided. Similarly, some candidates changed other field properties effectively for only a few fields.

Queries were generally carried out well by candidates and assessed well by centre staff, although the quality of reports did not always meet the requirements when higher marks had been awarded. For Mark Band 3 they should require little or no amendment to the layout in order to make them fit for purpose, which usually would include printing.

For candidates' interfaces to be considered *effective* there needs to be a data entry form for every table for which this is appropriate/needed. Although the assessment criteria for Mark Band 3 state that forms need to be created for *most* tables this is in recognition of the fact that some tables, for example lookup tables, do not require a data entry form, rather than allowing candidates to achieve full marks for a solution that is not fully usable. The Mark Band 3 requirement to provide access to 'forms, queries and reports' from the user interface can be considered met if candidates' interfaces provide direct access to all forms and all reports, so long as there is a form for every table and a report for every query – access to queries for day-to-day users is through the reports and access to tables is through the forms.

The weakest section of most portfolios was Learning Outcome 4, where candidates often did not document well the testing they had carried out, did not explain the methods they had used and did not include any evidence of testing another person's user interface. Some included evidence of other peoples' testing of their user interfaces, which is a valid part of their testing, but failed to include evidence of their own testing of someone else's user interface, which is what they need to be assessed on. If, when marking the portfolio, centre staff find that this is the case it should be possible to find the feedback that has been given by the candidate and ensure it is included in the portfolio.

R005

Candidates completed this unit using a range of approaches, including websites and stand-alone products created using MS PowerPoint and Matchware Mediator. Both OCR assignments – ‘Out and Up’ and ‘Wind and Waves’ were used successfully by centres. Some centres had amended the assignment to provide an alternative scenario which they thought would be more appropriate for their candidates. Where these were of an equivalent complexity to the original assignment this was appropriate, but centres are requested to ensure a copy of any amended assignment is provided for the moderator. In some cases the centre scenario was over-simple, leaving candidates little to analyse, so their specifications consisted largely of their own choices rather than showing that they were addressing user requirements.

Most centres provided electronic evidence of the final products, which is appropriate. However, some problems were encountered when these products had not been checked on a standalone computer to ensure all features, including sound, video and hyperlinks, worked. If it is found that a product does not work fully on a standalone system then some means of providing more complete evidence to the moderator needs to be found. Sometimes this can be achieved by exporting the final product in another format (e.g. PowerPoint exported to CD) and sometimes additional evidence can be provided by, for example, video, screen capture software and/or witness statements confirming the features that work when the product is viewed in the candidate's user area. Centres choosing visiting moderation generally were able to show products working.

Candidates from some centres made use of online web-creation tools. Where these are used well they can allow candidates to design and create suitable solutions but when assessing the outcomes it is important that centres take into consideration the tools that candidates have used and the extent to which the outcome is a result of their own design ideas and efforts rather than provided by the tool being used. Whilst the type of product to be created and the software used for the task must remain the independent choice of each candidate, centres should make sure that candidates understand that the use of pre-populated templates is not acceptable.

Many candidates produced very extensive products, beyond the expectations for this unit, perhaps limiting the amount of time they had to complete documentary evidence. Whilst for the highest marks in Learning Outcome 2 there must be sufficient pages to allow candidates to demonstrate their ability to create a clear and coherent navigation structure, making use of drop-down/sub-menus according to the type of product being created, candidates should be discouraged from creating many more pages than they need. However, the assignments do not specify the number of pages needed and it is not permissible for centres to do so – the structure of their product must be each candidate's own decision.

A significant number of centres awarded marks over-generously in Learning Outcome 1 where candidates' specifications were over-brief and general. To be considered ‘sound’ it would be expected that specifications will address all aspects of user requirements given in the assignment brief and that clear and measurable success criteria that are specific to the user requirements will be clearly identified. Some centres had provided candidates with amended scenarios which were insufficiently complex to allow any analysis and this disadvantaged candidates. Many candidates' success criteria resembled design ideas rather than criteria by which the final product could be assessed whilst others provided lists of criteria which were not inappropriate but were not specific and could equally well have applied to any other design brief. Such specifications were sometimes over-generously assessed by centres.

Candidates from some centres made very effective use of planning techniques such as spider diagrams and mood boards but some candidates appeared to have created one or more of these items in isolation, rather as part of their planning. Other candidates' planning was limited to a storyboard and in these cases centre marks were often over-generous. Site plans are a key element in the planning of an interactive multimedia product.

There was evidence that many candidates had been taught about areas of legislation such as photo permissions and privacy but, as in previous sessions, there were many centres where simple comments about basic copyright were over-generously assessed.

As in R002, candidates from many centres chose to list their components using a generic source table and this may have discouraged them from providing clear explanations and justification for their choice. In some cases centres over-generously assessed explanations that did not go beyond identification of the subject of each image or a statement of where it would be used. Full 'justification' would normally include evidence that some alternatives have been considered, with some comparison of suitability and reasons for choosing some rather than others. Candidates from some centres appear to have been taught to include in a source table a range of different components, with reasons for using some and not using others. Where these statements were unrelated they did not amount to justification.

Most candidates were able to produce a working interactive system with at least some choice of pathways. However, to fully meet the mark band 2 requirements of being a 'sound' navigation system it must be robust and allow a user to move easily between pages in whatever order is required. Where candidates have used MS PowerPoint and not removed the 'advance on click' option, a user could easily bypass any navigation system and click through and out of the presentation. Where candidates have produced applications which operate in full-screen mode with no obvious 'exit' these would cause an ordinary user problems. A website or other product with an inconsistent or inappropriately sized and/or labelled navigation bar would be considered to have poor usability. In none of these cases could the navigation system be considered fully 'sound'. Those candidates who had put more thought into their navigation systems, providing both internal and external links in a logical and structured way, considering where a user might want to go from each page as well as providing all other options were able to access the highest mark band. Where there were very few pages, requiring only the simplest navigation bar, it did not provide opportunity for candidates to demonstrate a system that was more than 'sound'.

Although most candidates' products were well organised many had limited multimedia components and the page layouts were often very simple. Where candidates had used MS PowerPoint they had fewer options for interactive features. Although extremely effective interactive multimedia products can be created using this software this is only possible when its more advanced features are fully utilised. Some centres' marking in the second part of Learning Outcome 2 was over-generous in the absence of any interactive features other than the basic navigation system, which is assessed in the first part of this Learning Outcome. Where electronic evidence was not provided it was often not possible to determine whether or not any additional interactive features or effects had been implemented and, if there was some evidence of their existence, the extent to which they were effective in meeting user requirements.

Evidence of testing was not always clear. Whilst extensive screenshot evidence of testing is not required there must be clear evidence what the candidates have actually done. Vague claims such as 'test all hyperlinks' do not show what has been done. Some candidates added dates to show that some testing had been carried out as the product was being created, but these did not always match the type of test being carried out, which in some cases could only be done on a completed product. Where tests are only documented after the product is completed it is likely that most, if not all, of the genuine testing that takes place as components and features are added, and all error correction, has already been completed. Where candidates provided documentation to show what they had done at different stages of the creation of their product, including testing features as they were added and making amendments as necessary, however minor, this evidence was much clearer and enabled credit to be given.

To be considered 'thorough', tests must be clearly identified for all areas of the product, identifying specific areas of the product that need to be tested. Test tables that included only generic areas to be testing cannot be considered to demonstrate a high level of achievement. Some interactive features, e.g. forms, require more than one test to ensure they will work in all

circumstances. Such thorough testing was rarely seen.

The appropriateness of the feedback obtained is an important element of the assessment criteria for the final section of Learning Outcome 3. Factors to be considered include the questions to be asked and the people to be asked, including consideration of how many people to ask. Where candidates' initial success criteria were not clear, it was more difficult for them to achieve high marks here. Some candidates carried out their own evaluation against their success criteria rather than analysing the results of their feedback. This did not meet the assessment criteria.

R006

Most candidates submitted work using the first OCR assignment 'The Camera Never Lies', although a second assignment 'Keep Pets' is also available. 'The Camera Never Lies' requires candidates to create a competition entry that promotes their local area. Although some candidates included both aspects of this scenario within their specifications many concentrated on only one – either the title of the competition or the local area promotion – and so did not demonstrate a sound understanding of the client brief. Some centres had replaced the brief with their own scenario and where this was not of equivalent complexity candidates were unable to demonstrate the same level of analysis and understanding.

Consistent with R005 and R007, some candidates did not demonstrate a good understanding of what success criteria are, providing lists of design ideas rather than clear, measurable criteria that would allow them to assess the success of their work.

Candidates from some centres made good use of a range of research methods, including spider diagrams, interviews/questionnaires and 'competitor' research but in some cases marks were awarded over-generously where candidates had included examples of some or all of the above, without any coherent thread or evidence that this was part of the planning of their solution rather than the carrying out of previously determined tasks for reasons that were clearly not understood.

To be considered 'clear and detailed', candidates' design plans must be sufficient for a third party to implement with little or no additional instruction. Many candidates' designs were limited to a few written ideas rather than a design plan. It is expected that a clear design plan will lead logically to a search for appropriate components.

Comments in R005 above relating to lists of components, reasons for choice and legislation constraints also apply to this unit.

In some cases marks were awarded in this unit where no evidence could be found for setting image size and resolution and/or storage of digital files and/or the size, resolution, output medium and colour of the image to be presented to the client. Even when digital files were provided for moderation, often the working files were not included, so there was no evidence of the appropriate storage of both working files and final output.

In the first part of Learning Outcome 2, candidates are expected to set both image size and resolution if this is appropriate and possible within the software being used. The 'and/or' in the specification is intended to provide flexibility in the type of image and software chosen. For example, resolution would be irrelevant for a purely vector-based image. Where it is possible/appropriate (which is most likely when the scenario is based around photographs) it is expected that both will be set. The marking criteria assess candidates' reasons for their choices and many centres were over-generous in their marking where candidates had stated what they had done but not provided any reasons. In some cases marks were awarded over-generously when candidates had clearly not made appropriate choices of size and/or resolution.

Many candidates provided good evidence of the use of a range of techniques to produce complex images but in some cases the final product was assessed over-generously when it did not communicate the intended, or indeed any, message. The final image alone often does not effectively evidence all the techniques that have been used and candidates should be advised to ensure assessors and moderators can clearly see the range of tools and techniques that have been used.

The second part of Learning Outcome 2 assesses not only the candidates' use of image editing software but also their evaluation and feedback on digital images. Although most candidates did include some evaluation of their own images, there was often no evidence of any feedback they had given to others. It should be emphasised that *both* are required in order to gain full marks in a mark band, although the mark band itself should be chosen according to the quality and appropriateness of the image created.

Where candidates provided evidence of their folder structures these were often weaker than those seen in R002. Centres are recommended to ensure that candidates are taught the benefit of saving intermediary versions of their final product, in editable form, and of the use of folders to clearly separate source files, working files and final products. Some centres appeared to have credited the use of folders to separate work for different units, rather than to organise the work for this particular unit – this was not appropriate.

Candidates from some centres included lengthy explanations about different file formats, which were not required by either assignment tasks or marking criteria.

The assignment asks candidates to present their image for the competition. It is important that they make their own decision about the method they wish to use and that their choice is made clear within their portfolio. In some cases where centres had made repository entries it appeared that candidates had limited themselves to electronic submission of their competition entries. Had they chosen other methods, this could have been evidenced using an electronic format by the centre.

R007

Although this unit allows candidates to create solutions using audio, video or animation the majority of products presented for this unit were video clips. Most centres provided evidence of the final products electronically, which is the most effective method of demonstrating the quality and effectiveness of the products. In some cases problems were encountered when trying to upload to the OCR Repository, where the maximum size for any individual file is 20Mb. In such cases centres could enter candidates for postal or visiting moderation

Evidence was submitted from both OCR Assignments – promoting the local area and the newer 'Shoulderpads' assignment, which is proving more popular.

Many well-designed, creative solutions were seen this session but some products were relatively simple slide-shows of images or collections of clips with no real coherence or logical progression and these had often been over-generously assessed by centres.

The level of independence when defining the specification is assessed in Learning Outcome 1. Many centres provided no evidence for this. Where centres made a comment on the unit recording sheet that clarified any support given, this was helpful and appropriate.

In order to assess the level of complexity, originality and creativity of the proposed solution within the first part of Learning Outcome 1 it is necessary to assess the candidates' design plans, e.g. timeline storyboards. These need to be detailed before the required aspects can be clearly assessed. Some candidates did not provide any documentary evidence of their designs. Screenshots/printouts from completed or partially-completed products cannot be credited as designs.

Comments in R005 above relating to success criteria, lists of components, reasons for choice and legislation constraints also apply to this unit.

The final product alone may not effectively evidence all the techniques that have been used and candidates should be advised to ensure assessors and moderators can clearly see the range of tools and techniques that have been used.

In some cases it was not possible to find any evidence for the second part of Learning Outcome 2. Although many centres provided the final exported files for moderation, evidence of how the product had been saved in raw editable file format was not always provided. To demonstrate understanding of advantages and disadvantages of different file types some documentary evidence, either from the candidate or in the form of a detailed witness statement documenting verbal explanations, is needed.

Many candidates provided detailed test plans, showing both functionality and qualitative tests carried out, although some test plans were assessed over-generously where they did not clearly identify the tests to be carried out (i.e. how the item was to be tested) and/or expected outcomes.

To be credited, there must be some clear evidence of testing during completion, not simply a candidate statement saying that this had been done or a date implying this. In many cases tests that were claimed to have been carried out during completion would not have been appropriate or possible until the product was completed, e.g. testing the length of the final clip or qualitative assessments of the product. If candidates were encouraged to complete an implementation log, this would more easily and effectively demonstrate the genuine tests that are carried out as pages and features are completed/added.

R008

A range of effective programs were seen again this session, with many candidates demonstrating a good understanding of the chosen programming language through clear and thorough annotation of their programs. Where the products were provided electronically this aided moderation, so long as the moderator was able to freely download any software required to open them. Guidance for moderators about how to view programs, on the Unit Recording Sheets, would be welcomed, as it cannot be expected that all moderators will be completely familiar with all possible programming tools.

A range of programming tools were used by candidates, including Scratch, Python and Kodu, with the majority of submissions using Scratch. Very simple systems developed for young children may not provide sufficient flexibility to enable access to all the assessment criteria.

LO1 was generally the weakest area, with selection of a programming language often being based upon familiarity alone or generic, unrelated to the scenario/candidates' design ideas. Most candidates did not demonstrate any experience in the use of more than one language.

Success criteria were not always clear and comments relating to these in the R005 section above are also relevant here.

Where candidates analysed the problem well they identified the outputs, inputs and processing requirements accurately but in many cases candidates wrote about what would happen in their games without fully analysing what this required in terms of inputs, processing and outputs within the program. To fully meet MB3 requirements in LO1, inputs, processing and outputs should be analysed in terms of what the program needs to do rather than simply what the user will see on the screen.

The first part of LO2 was often very strong and accurately marked, with well-structured, effective programs produced, using an appropriate range of constructs, variables and operators to produce interesting, playable games that met all or most of the criteria from the assignment. In only a minority of cases were the problems too insignificant and/or the solutions insufficiently complex to warrant the mark awarded by the Centre although in a minority of cases the designs lacked imagination and it could not be considered that the finished 'game' was either easy to learn or fun to play. The highest marks in the second section of this learning outcome were achieved where candidates clearly demonstrated their understanding of different programming constructs in their annotations. In some cases marks were over-generously awarded where candidates re-iterated what their programs did, often identifying the overall function of procedures/sections of code but without demonstrating understanding of the individual lines of code and/or the types of construct used within them and without the use of any technical language.

Centre marks for LO3 were sometimes over-generously awarded where candidates' testing was very limited, often running the program once, without considering the range of different situations that might occur. Candidates should be taught to develop test plans to test the different types of error that might occur, using different test data/methods as appropriate. The best testing also demonstrated consideration of time and efficiency by editing programs so that higher levels could be tested without having always to fully complete the lower levels. To be considered comprehensive, candidates need to consider the different states that need testing at various points within their programs, rather than just seeing if they can get to the end.

R009

This is a technical unit and in many cases candidates' portfolios failed to demonstrate the level of technical understanding required to justify the Centres' marks.

The scenario in the Model Assignment includes a number of different aspects which need to be addressed before Mark Band 3 can be considered by an assessor. To demonstrate a detailed understanding of the use and function of computer components and devices it is necessary for candidates to provide sufficient details of the components included in the systems they specify. For example, if they have not considered specifications such as RAM, CPU and HDD when selecting computer systems they are not demonstrating any understanding of these basic components.

Marks were sometimes awarded over-generously in LO1, where candidates had chosen a computer system and written about its advantages, but not explained why this was necessarily the best system. To be considered as 'fully justifying' choices, it is expected that candidates will give clear and specific reference to user needs and explain why their chosen item is the best match to these needs, considering the specification of its components. This invariably requires some consideration of alternatives. Candidates from some centres appear to have been taught to select two alternatives for each item, then to choose between them. This does not amount to 'full justification', especially where there was no obvious reason why the particular two had been chosen.

Where candidates' descriptions of components/specifications were generic and unrelated to the needs within the scenario of the assignment these were sometimes over-generously awarded high marks by Centres, as the understanding of the use and function of the components and devices needs to be expressed through candidates' explanations of choices made to meet the needs of the client. Unrelated descriptions of different types of component, which would be appropriate teaching/learning activities, do not contribute to the assessment of this unit.

Candidates from some Centres selected and wrote about a wide range of different components, as listed in the specification, but appeared to be unaware that these alone would not provide

them with a working computer system. Where candidates selected existing complete systems after considering different aspects of their specifications with specific reference to the user needs they were more likely to meet the requirements of the higher mark bands.

It is almost inevitable that candidates will choose systems from web-based retailers. When copying and pasting information about these systems it is essential that assessors and moderators can clearly differentiate between the information that has been found and that which has been written by the candidates, demonstrating their own understanding. JCQ Instructions clearly show candidates how they should acknowledge copied material and it is important that centres emphasise this fact.

LO2 was often the strongest area of the portfolio, with many candidates demonstrating at least a sound understanding of network structures and components, although some Centres appear to have focussed on the traditional bus, ring and star topologies, rather than those identified in the specification content and this resulted in some candidates trying to apply these traditional topologies to a wireless network, demonstrating a lack of understanding. It is important that preparation for this unit covers the topologies listed in the specification.

Whilst candidates generally provided some well-presented trouble-shooting guides, clearly demonstrating the transfer of skills from other units, these were often limited in coverage to nontechnical solutions, listed in the specification as 'simple hardware and network problems' and did not cover any of the other areas of content that candidates should have been taught, therefore failing to meet higher-band requirements. The best trouble-shooting guides provided a range of strategies for identifying the source of problems from generic symptoms, rather than expecting the user to know what the problem was. Some candidates were awarded marks over generously where guides concentrated on solutions to known problems (e.g. 'the printer is out of paper'), hence generally providing a single solution for each problem, which is mark band 1 level.

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