

## **REPORT FOR PUBLICATION**

### **QUALIFICATIONS**

**OCR Level 3 National Certificate in ICT**  
**OCR Level 3 National Diploma in ICT**  
**OCR Level 3 National Extended Diploma in ICT**

### **CENTRE PRACTICE**

#### **Introduction**

2009-10 was the second year in which the OCR Level 3 Nationals in ICT were available. Consequently there was a significant increase in the number of centres submitting optional units, and also in the number of candidates completing qualifications.

A number of centres have requested exemplar portfolios for a range of units. It is important to understand that at this stage it is not possible to provide these for all units, although examples are provided as part of the courses in the OCR INSET programme.

#### **Delivery methods**

- General
  - This set of qualifications is delivered mainly in school sixth forms and colleges. A few candidates have started the course in Y11, after completing their L2 qualification early. Most candidates complete their course over two years, with a few one year courses.
  - Courses are generally taught and assessed by members of the ICT department, although some sharing of expertise from other departments has been necessary in some centres. Examples are Unit 3 (Science/Maths) and the units within the Business Enterprise specialist pathway (Business Studies). Some units, eg Unit 13 (Music Technology) and Unit 19 (CAD/CAM) have been delivered entirely by departments other than ICT.
  - Most centres have arranged delivery so that each unit is taught to a group by a single member of staff; so where a group is shared the candidates work on two or more units in parallel. A small number of centres share the teaching of a unit, allowing candidates to concentrate on one unit at a time. Those centres choosing the latter option have developed efficient communication methods between the teachers involved.
  - Many centres begin with units 1 and 2, as these contain basic skills and knowledge which underpin much of the work candidates will carry out in other units. However, problems have been encountered in Unit 2 (Collaborative Working) due to candidates leaving the course, affecting other candidates who were working in a group with them.
  - The acceptance by centres of text copied and pasted from websites continues to be an area of serious concern. This is usually evident from the writing style and can be

quickly verified through a phrase entry into a search engine. Alternatively there is a range of plagiarism detection software available, some of which can be used from the internet free of charge. Simply providing a source reference for the copied text does not make it valid for assessment purposes, unless there is additional explanation from the candidate. Candidates may include properly cited quotes in order to exemplify or clarify a point, but any assessment must be based on the evidence of a candidate's own understanding. Copied material that is unattributed must not be included in any candidate submission.

- OCR model assignments
  - Most centres have used the OCR Model assignments for the mandatory units. These are commonly modified to change the scenario, a process which is usually successful.
- Centre-based assignments
  - As there is no OCR Model Assignment for any of the optional units, centres have created their own, with a number of centres sharing these via the OCR e-Community, a practice which is to be encouraged. Generally, centre-set assignments have been appropriate, with centres using the OCR assignments as a guide to the level and type of direction that is appropriate.
  - A few centre-based assignments have caused problems because they failed to address one or more assessment criteria. This coverage needs to be thoroughly checked before any assignment is used. However, if such a problem arises it should be spotted by the centre when marking; allowing any omissions to be addressed before marks are finalised and external moderation takes place.
- Commercial resources
  - There are few available commercial resources targeted at this qualification. Where they are used to supplement, rather than replace, teacher input they are most successful.
  - Resources written for other qualifications can be extremely useful for some units. For example, more traditional A Level texts, including those for the Applied GCE, provide excellent background for many units, including 4-7 and 20.
- Internal moderation
  - Although some centres have a very effective system in place, this is an area where problems have been identified. If effective internal moderation is not carried out by a centre this can have a serious effect on the results obtained by candidates and can result in groups of candidates being withdrawn so that their work can be reassessed by the centre.
  - A number of possible internal moderation models can be used. In some centres all work is moderated by one person, usually the lead assessor, in other centres all assessors are involved, each moderating the work of the others. Double marking has been used in a few centres with a small number of candidates.
  - Some centres submitted their grades on Interchange before carrying out any internal moderation. This is not acceptable, as grades cannot be changed at this time.
- Assessment
  - Most centres correctly assess using the grid at the end of the unit specification. Unless this is done it is unlikely that the assessment will be accurate.

- The most common reason for visiting moderators being unable to confirm grades is over-generosity on the part of the centre, where the level of detail and/or accuracy does not warrant the grade awarded.
- Where centres arrange a moderation visit early in the year this is often useful in detecting any misunderstandings or leniency, leading to a successful second moderation.
- Evidence
  - Some moderation visits have resulted in the withdrawal of units because portfolios did not include clear evidence for every assessment criterion. Such omissions should be identified by the assessor and through the internal moderation process.
  - Most centres provide electronic files of any products created, which minimises the amount of time needed for candidates to produce their evidence as well as providing full evidence of what has been achieved.
  - Some centres provide all their evidence electronically. Whilst this is acceptable, it has sometimes caused problems for visiting moderators if there is no system to show exactly which files are needed, where they are and in what order they need to be viewed. Many candidates produce multiple short word-processed files, rather than multi-page documents, which suggests a limited understanding of the best use of the software, as well as increasing the time taken to view the entire portfolio.
  - Where screen shots are provided as evidence these must be of a size where their contents can be read, and not over-cropped so that significant evidence is missing.
- Interchange
  - Most centres have found the process of submitting grades via Interchange fairly straightforward, following the guides and demonstration videos available on the OCR website. However, it is important to understand that this system does not afford the flexibility to deal with errors for individual candidates that the previous paper-based system allowed. This is necessary in order to protect the integrity of the data once it has been submitted. Once submitted, a claim can only be processed by the visiting moderators, who can only 'agree' or 'disagree' groups of candidates according to unit and assessor. This can only be done at the end of a moderation visit, once all units have been moderated. Any errors in claims will result in the necessity for centres to build new claims after the visiting moderator has withdrawn all or part of the original claim.
  - The Interchange system requires the assessor of each portfolio to be identified. This information was incorrectly entered by a number of centres over the year, resulting in moderators having to ask for additional portfolios on the day of moderation and, in some cases, being unable to process the claim as required by the outcome of the moderation, requiring the entire claim to be withdrawn and a new claim made by the centre.
  - Some centres encountered difficulties when entering their claims because of the time that it took newly registered candidates to become visible on the system. Under normal circumstances it should be possible to enter claims for candidates within 48 hours of registration, but there are circumstances which might cause a delay in this process.
- Moderation visits:
  - All centres are entitled to two moderation visits per year, free of charge. Additional visits can be requested and charged to the centre. These visits are entirely separate from those carried out for the Level 1 and 2 qualifications. Although the majority of moderation visits can be completed within a single day, where there are a large number of units to be moderated and/or a number of different assessors,

arrangements are made by OCR to extend a visit over more than one day. The decision regarding the number of days required for a moderation visit rests with OCR.

- Most moderation visits take place during the centre's normal working hours, although it is wise to plan for them taking a little longer than a standard working day. However, it is possible to arrange visits at weekends and during holidays, if this is convenient for both moderator and centre.
- Some centres took advantage of the option for a moderation of partially completed portfolios to provide feedback on new units before they were completed. This proved useful in helping these centres towards a successful full moderation later in the year.
- It was disappointing to note that many centres have been delivering and assessing the qualification for more than a year before registering candidates and booking a moderation visit. These centres have missed out on valuable advice and feedback at the early stages of delivery.
- Most centres book moderation visits early in the school year. This is extremely helpful for visiting moderators, most of whom have busy schedules, and helps the centre by making it more likely that a convenient date will be available. It also provides fixed deadlines which can aid planning.
- Appropriate record sheets are made available by most centres, allowing the visiting moderator to follow the centre assessment for each candidate.
- Some centres were disappointed where a visiting moderator was unable to confirm the grades awarded by the centre. This caused particular problems where the visit was carried out at the very end of the year. In most cases this might have been avoided had the centre submitted at least partially-completed units at an earlier stage in the year.
- Some difficulties have been encountered during moderation visits, when centres have not provided a suitable computer on which the visiting moderator can view any electronic files that are provided as evidence. Although some visiting moderators might take their own laptop computer to a moderation visit it is important that the centre provides the facility to view the files provided, so that there can be confidence that the visiting moderator will be able to see the work as the candidate intended. Problems encountered with equipment provided by centres have included lack of, or the wrong version of software, lack of speakers or headphones when provided with products involving sound, machines with screen resolutions that do not allow products to be viewed as intended and lack of the fonts used by candidates.
- Problems were encountered in a few centres where candidates had improved/modified their work in the days leading up to the moderation visit, after the claim had been sent to the visiting moderator. Once grades are submitted, candidates should not add to or amend the work in any way.
- Centres are developing a variety of policies regarding visitors to school and safeguarding of students. Some difficulties were encountered by visiting moderators when these policies were not advised/discussed before the visit.

### **Comments on the Units**

The report from 2008-9 provided detailed comments and advice on a number of units seen in that year. These have not been reproduced here and centres are advised to refer to this document if tackling a unit for the first time.

- Unit 1
  - Reference needs to be made to the Knowledge, Understanding and Skills section of the unit specification document (KUS) in order to understand the range of aspects to be covered in the assessment objectives (AO)s.

- AO1 is most successfully achieved where candidates carry out research using local business contacts, rather than simply using the internet and/or text books. This leads to real examples of use within the business environment.
- There remain some problems at the higher levels of AO1, where candidates often merely describe e-commerce, e-business and e-marketing and/or their advantages/disadvantages, without analysing how communication technology has contributed to their growth.
- There was a typographical error in the revised version of the grading grid for AO2 at Pass level. The correct wording is 'Candidates will *give* a limited explanation of some of the aids and barriers to effective communication'.
- The focus of AO2 should be on those aspects that make communication more or less effective. This is not achieved by simple considerations of the advantages and disadvantages of different communication methods.
- Templates produced for AO3 should show some consideration of usability. Vast quantities of placeholder text are not necessary, but some use of automatic fields can add to the appropriateness of a template.
- Although the Model Assignment correctly indicates that there is no requirement for candidates to create any evidence of their house style design, experience has shown that it is beneficial for them to do so, as it creates clearer evidence against which the final templates can be assessed – which is particularly important when the house style is based on default text styles – as well as providing a check for the candidate.
- AO3 is often assessed over-generously at Distinction level when there is no evidence that candidates have created/edited text styles as appropriate for each template.
- Evidence for the templates produced is often successfully presented through the electronic files themselves.
- Centres often assess the quality of documents produced for AO4 over generously. Where generic business documents are created (eg memos, letters, reports, invoices) these should comply with generally acknowledged standards. When creating, for example, leaflets, web pages and presentations; text size, amount of text, paragraph formatting, hyphenation and white space should be considered. Business cards are too trivial to be considered 'written communication' at this level.
- The use of tables, bullets, auto-numbering, columns and text boxes need to be specifically assessed. To be credited, these must be more than defaults, eg default text boxes and/or bullets on a presentation slide and tables in spreadsheet software. Column formatting is a feature entirely separate from columns within tables or created manually from text boxes. Good use of the listed features might include numbering (with sub-numbering) of sections within a report; bulleting of lists, correctly indented, where appropriate in a range of documents; appropriately structured and formatted tables in an invoice or showing summary data in other documents; text boxes, appropriately linked, in a leaflet or web page, and text in columns if appropriate on a word-processed document.
- Centres are reminded that AO5 requires clear evidence of the use of a range of email features. Candidates sometimes provide screen shots and/or explanations of the software tools but little evidence of the features being used appropriately.
- Many candidates provide good descriptions of security issues and avoidance methods, although vigilance is needed when assessing this AO to ensure credit is not given for plagiarised material and/or inaccurate or confused descriptions. These descriptions are often presented in the form of leaflets or websites which are also used as evidence for AO4. However, some candidates demonstrate a limited view of what a leaflet is, and where they try to cover six different issues on a double-sided A4 gate-fold sheet there is insufficient space for them to give the detail required.

- Health and safety requirements are often evidenced in AO7 by a written description of health and safety practice with no evidence of the extent to which the candidate has actually followed this practice. Specific claims by the candidate, verified by the assessor, could be used to provide the required evidence.
  - Although AO7 is assessed at the end of the portfolio it is essential that some aspects are addressed by candidates at a much earlier stage. It is impossible for them to evidence the appropriate use of document versions or regular backup if these issues are only considered at the end of the assignment.
- Unit 2
    - It is important the final group product is of a sufficient size/detail to offer opportunities for candidates to use the range of resources required.
    - Although the planning documents required in AO1 are produced as part of a group it is important that there is some clear evidence of the extent of the contribution of each individual candidate. This might be provided through individual, signed and dated tutor witness statements or by candidate claims, verified by the tutor.
    - Success criteria are sometimes missing from AO1 or misunderstood. These should be measurable criteria that can be used to judge whether the final product meets the requirements of the brief and should form the basis of the candidates' evaluation of the products produced.
    - AO2 is best evidenced where candidates have experimented with different tools rather than tried to explain them by using information from text books and/or web-based encyclopaedias etc. Examples can be easily given when the tools have actually been used. Additionally, such experimentation can be significant in helping a group decide on the tools they will use throughout their project.
    - It is strongly recommended that all candidates include in AO2 collaborative editing tools such as comments and tracked changes, since these are specifically required at the higher levels in AO5.
    - AO3 requires candidates to explain search techniques and compare their use in different types of search engine. This is best evidenced where candidates clearly state the information they are looking for, so that the effectiveness of the searches can be more easily evaluated and compared.
    - It is also important that search techniques are used appropriately. Entering the same words in more than one of the boxes of an advanced search facility, putting quotes round a single word, entering logical operators in lower case and using AND and NOT in Google are examples of inappropriate use of techniques. Candidates should be encouraged to use searches for information for their pages as evidence for AO3 rather than carrying out additional searches simply to demonstrate the techniques.
    - This unit specifically requires candidates to find and use some information from a non-internet source. It is important that candidates are aware of this requirement. As many magazines etc are available online it is important that evidence is clear and unambiguous.
    - Commenting on the copyright of the information found requires more than making a general statement about copyright. Additionally, each source needs to be referenced. Good examples have been seen where a table is used to list the sources and comment upon reliability, suitability and copyright.
    - Comments on the suitability and reliability of the information need to have some explanation before they can be credited.
    - Centres are encouraged to ensure candidates annotate their work to clearly identify the text has been imported and that which the candidate has entered via the

keyboard. The source of each item of information also needs to be identified, so that the range of internet and non-internet sources can be assessed.

- Captions/cross references should identify the source of specific items included on the page, as part of the finished page rather than additional annotations.
- AO6 requires clear evidence of reviewing both by the candidate of the work of others in the team and by other members of the team on the candidate's work. For higher grades, the actions taken as a result of feedback need to be evidenced with explanations.
- Many candidates create their final products in a DTP package, which may not offer the facility for tracking changes. This is a good example of a situation where word processing software might be used to develop text, which is later laid out using DTP.
- AO7 specifies a number of different aspects that must be included in the evaluation. It is not uncommon for one or more of these to be missing, in which case the portfolio should have been returned to the candidate for additional work.

- Unit 3

- It is important to understand that this is a problem-solving unit, not a spreadsheet unit. Techniques of sampling, questionnaire design and analysis need to be taught and understood before any unit assessment is attempted.
- The key to a successful portfolio is a suitable hypothesis. Many candidates simply cite things they want to research rather than defining a hypothesis. Candidates should carry out background research in order to come up with a hypothesis suggesting a reason or reasons for the phenomenon under investigation. A simple hypothesis will suggest one factor whilst a complex hypothesis will suggest more than one, leading to more complex analysis involving a number of data series. Examples of simple and complex hypotheses are given in the guidance within the unit specification document.
- Although the centre can set the overall topic to investigate, each candidate must carry out their own initial research and produce their own hypothesis.
- Once the hypothesis is stated, candidates should be able to list criteria which can be used to test it – measurable outcomes that will be true if the hypothesis is true. These criteria should lead directly to the data that needs to be collected and the processing that will need to be carried out on that data. It is not uncommon for candidates to collect a range of data that is related to the overall topic but which has no value in investigating the hypothesis.
- Candidates cannot select a suitable sampling method unless they have an understanding of different types of sampling, the main examples of which are listed in the KUS. Credit should not be given to candidates who state one method and then use another. For example, it is common for candidates to state that they are going to use random sampling, and then to describe and use a stratified or quota sampling method.
- Candidates need to consider carefully what analysis is needed to test their hypothesis. Simply summarising the responses to every question on a questionnaire is unlikely to do this, as it should be necessary to compare the responses of different groups within the population.
- Access to the electronic spreadsheet file is helpful to confirm the effectiveness of the validation techniques applied and the formulas/functions used. Where paper-based evidence is relied upon there can be problems if printouts are too small to be read or if columns have not been widened to show the complete formulas.
- Creating charts from data within a spreadsheet is a not a high-level activity. Assessment of AO5 needs to focus on the clarity of the charts – scale, shading,

labelling etc – and the appropriateness of the type of chart to the data being represented. For this, candidates need to understand the difference between proportions and absolute values and between continuous and discrete data.

- There may be occasions where candidates decide that there are no opportunities for the use of more than two types of chart. In such cases they might create alternative chart types and explain why they are not as appropriate as those finally chosen.
- The requirement for the final presentation to include tables as well as charts is often overlooked.

- Unit 4

- This unit is generally done well, with some excellent, innovative products produced in some centres. A few centres appear to over-direct their candidates, leading to products with very similar designs/structures. This has been particularly noticeable where candidates have been provided with a copy of an OCR exemplar portfolio. It is important that candidates are given opportunities and encouragement to explore different design options.
- Most centres provide visiting moderators with an electronic copy of candidates' finished products, which is extremely helpful and eliminates the need for candidates to produce extensive screenshot evidence.
- A variety of software is used to create the products, with the most common being MS PowerPoint, MatchWare Mediator and Macromedia Flash. All of these can be used to create appropriate products, with each having its own strengths and weaknesses. However, whatever software package is being used it is essential that candidates explore its features to the full, to ensure they are able to include a sufficient range of types of user interaction, alternate pathways, timeline-based events, multimedia effects and multimedia elements.
- Some centres have expressed confusion over the different aspects to be included within the product. These also need to be included in the plan in AO2. They are:
  - Multimedia elements – text, graphics, sound, animated files and videos, imported into the product.
  - Alternative pathways – options for the user to choose different routes through the package, viewing screens according to these choices. This is in contrast to a linear presentation which presents screens in a pre-determined order
  - Hyperlinks – internal hyperlinks provide the alternative pathways mentioned above. External hyperlinks might provide access to external web pages and/or files saved using other software. The grading grid does not specify whether the hyperlinks should be external or internal, so it is not necessary to provide both, but candidates should be encouraged to think about whether or not their product would be enhanced by the inclusion of external hyperlinks.
  - Other interactive features – these are any features which require user interaction, which are not hyperlinks. Possibilities will vary according to the software used, but they include rollover effects, sound/video controls, objects that can be moved by the user (often part of a game or a quiz) and other actions that can be programmed to occur on click.
  - Timeline-based events – these are actions that are planned against a timeline, where screens are shown in a pre-planned, timed sequence, without any user interaction. These are in addition to any animated files that are included as part of a screen.
- Most candidates provide good evidence for AO1. Aspects which are sometimes weak include describing a scenario in which the product might be used and providing criteria to measure the effectiveness of the final product. As in Unit 2, these should

be measurable requirements that can be used as a basis for testing that the product meets the brief. In some cases there is a need for clearer evidence of how the audience and purpose have affected the choice of content and key features.

- While candidates usually produce suitable design plans and storyboards for AO2, the need to include details of the interactive features that will be included and, for higher levels, the timeline-based events is often overlooked.
- Creating and editing the components of the multimedia product in AO3 is sometimes not well evidenced. Centres need to ensure that there is clear evidence for all aspects of this AO before awarding it. Screenshot evidence is the most common effective method used.
- AO3 requires candidates to identify the copyright of their sources. This is more than simply saying whether or not it is copyrighted – the details of the copyright, ie copyright holder – should be identified.
- AO4 requires candidates to optimise the elements they are going to use. Optimisation is more than choosing an option in a software package – it requires consideration of the points listed in the KUS, considering the intended use of the product and the method by which is to be distributed.
- It is expected at this level that the final product should work independently from the candidates' own user areas. Testing in a range of conditions, including from CD on a standalone machine, must be included by Distinction candidates and would be good practice for all.
- It is important that candidates specifically state the improvements they are suggesting in AO6 and not merely rely on suggestions from others. Clear evidence of improvements made must also be provided. This might be through screenshots and/or 'before' and 'after' versions of the electronic product.
- Most candidates provide a suitable user guide, with higher levels frequently earned for AO7. To be sufficiently detailed for Distinction level these do not necessarily need to be extensive but they do need to cover all aspects of the product. Good use of graphics should include effective cropping, suitable sizes and clear and helpful annotation. Some consideration of commercial user guides might provide candidates with useful ideas.

- Unit 5

- The designs produced for AO1 are sometimes lacking in detail. A Distinction-level design should cover all aspects of the solution and be sufficiently detailed to allow a third party to implement it without additional guidance.
- Provision of the electronic spreadsheet file created is an excellent way of providing evidence of formulas etc, although some signposting by the candidate is needed to show a visiting moderator where to look for the features used.
- Problems have been encountered by users of MS Excel 2007, which does not provide a straightforward way to customise menus. An acceptable response would be to customise the Quick Access toolbar and to provide a menu sheet using buttons and macros. The customisation should be designed in line with user requirements.
- The AO3 requirement to print sheets and graphs/charts must be met either by physical printouts or PDF files, showing that candidates have carefully considered how their sheets will fit onto printed pages.
- Most candidates produce suitable user guides for AO4 but the requirement and audience for a technical guide is not always so well understood. This should not be a step-by-step guide to how the spreadsheet was created, rather it should be addressed to an expert audience and include details of the specific methods and

techniques used, so that someone else could recreate or maintain/develop the spreadsheet.

- Testing at the highest level should demonstrate the use of normal, abnormal and extreme data.
- Candidates must ensure that they evaluate their spreadsheet against the defined user needs. The improvements suggested for Merit and Distinction should not be any that have already been incorporated as a result of the testing process. Candidates need to suggest further improvements that could be made to the final product, perhaps going beyond the original brief to suggest features the user had not considered.

- Unit 6

- It is important to understand that the Assessment Objectives are listed for the purpose of assessment and do not necessarily indicate the order in which tasks will be approached by candidates. In particular, it is not possible to create a user interface before the forms and reports that are to be accessed via this interface have been created.
- Suitable assignments for this unit will give clear information about the intended user(s) and their needs. Real life users can be ideal, but it is important that the scenario will offer candidates sufficient opportunities to meet the range of assessment criteria, including the range of different types of query.
- Candidates should not attempt this unit before they can competently design a relational database with an appropriately normalised structure, and understand basic concepts such as referential integrity, query techniques and methods of customising forms, reports etc.
- The normalisation process, leading to effective relationships, is key to success in this unit. Candidates should be taught the principles of normalisation to 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Normal Form, and this process should be demonstrated as part of AO1. Although it is possible to gain one of the lower grades for AO1 even if the normalisation process is not completely accurate, any errors could have a serious effect on the effectiveness of the database and could cause problems for later AOs. It is acceptable for teachers to intervene when candidates working at Pass level produce their designs, to ensure that the database they actually produce is efficient. Any such intervention should be documented.
- Access to the electronic database file allows the visiting moderator to confirm the requirements of AO2.
- Candidates should ensure that referential integrity is enforced when they are linking tables in order to ensure their database will work effectively.
- Centres need to ensure that assignments offer clear opportunities for queries that cover the full range specified in AO3. In particular, the requirement to use multiple criteria on linked tables should not be treated in isolation but should be evidenced through the use of the operators listed.
- The user interface should be appropriate to the purpose and audience, providing access to the data stored and to the reports created, with additional functionality making the total user experience as clear and easy as possible.
- Candidates should be encouraged to do more to customise reports in AO5 than simply adding colour, formatting the title and/or adding a logo. The creation of an invoice, membership card or overdue letter might be considered.
- It is important that the user guide, as well as the evaluation, takes full account of the user requirements.
- The requirements for a data dictionary have sometimes not been well understood. These should include definitions of the entities, attributes (including data types,

lengths, default values, validation) and relationships (showing primary and foreign keys).

- Testing at the highest level should demonstrate consideration of normal, abnormal and extreme circumstances/data.
- The evaluation in AO8 must clearly consider the extent to which the database system meets the defined user needs. The improvements suggested for Merit and Distinction should not be any that have already been incorporated as a result of the testing process. Candidates need to suggest further improvements that could be made to the final product, perhaps going beyond the original brief to suggest features/functionality the user had not considered.

- Unit 7

- Centres are advised that this is a specialist DTP unit and it is expected that staff delivering the unit will have the necessary expertise/experience.
- Although candidates' research in AO1 often covers a range of sources and publications, the level awarded for this AO is often limited because candidates provide only limited evidence linking their research to the design sketches. Although it is acceptable for centres to provide a source for research at Pass level, at the higher levels there must be clear indication of those sources that have been independently researched.
- As a suite of documents need to be produced, candidates might be advised to first design an overall house style which can then be used in each individual design. One 'master' template might be created, in which the styles are set, which can then be modified to create the different templates needed in AO2.
- The majority of aspects listed in AO2 can only be incorporated into the templates through user-defined text styles. These settings must be clearly evidenced, either through screenshots or the electronic files. Where the latter are used, some definition of the styles created and the aspects set in each would provide good signposting to help the visiting moderator find the evidence required.
- Although the final documents, including the electronic files, provide a significant amount of evidence for AO3, candidate need to ensure they provide clear evidence for all the assessment criteria, including the importing and typing in of text, also of the graphic manipulation they have carried out. Aspects such as links between frames, which are not immediately obvious from either printout or file, should be appropriately signposted by candidates to enable a visiting moderator to find them easily.
- In order for crop marks to have any meaningful purpose, at least one document should be a non-standard size/shape.
- The explanations in AO5 should be in the context of an evaluation report, which needs to relate specifically to the publications produced by the candidate. Simple generic descriptions of printing processes will not meet this requirement. Evaluations are often very brief and need to relate clearly to the initial design brief.

- Unit 8

- This unit appears to be more popular in the FE sector than in schools. Input from career specialists is often given and external links might be used to provide interview experience.
- Evidence of interview performance in AO6 is often provided through a video of the interview.

- Unit 9
  - This unit has been completed by only a very few centres. It is important that the work placement offers full opportunities for candidates to address all AOs. In particular there must be the opportunity to plan, carry out and evaluate a project. This might be a group or an individual project, but the context must allow feedback from supervisor and peers.
  
- Unit 10
  - This is proving to be one of the more popular optional units. The quality of work produced has varied greatly between centres, sometimes reflecting the experience of the tutor in this area.
  - Most candidates produce images within a given theme, for a particular purpose given through a clear brief in the assignment. This represents best practice.
  - The exact type and specification of camera to be used in AO1 is not defined, but centres need to make sure that the equipment provided has sufficient functionality to allow candidates to explore all the features listed in the KUS.
  - The range of manipulation techniques demonstrated in AOs 4 and 5 should be evidenced in appropriate situations where they enhance an image and/or make it more suitable for its stated purpose.
  
- Unit 11
  - Products of a very high quality have been presented by candidates for this unit. It is important to emphasise that the supporting documentation needs to be equally strong in order to ensure candidates will attain the grades of which they are capable.
  - Candidates need to ensure they compare, as well as analyse, the two videos in AO1. The purpose, audience and viewing context are key factors that should be considered throughout the analysis and comparison. Reference should be made to the KUS, which lists the expected content of the reviews. Format and viewing context are examples of items sometimes omitted.
  - Planning in AO2 could be strengthened in many cases, ensuring that all components, as listed in the KUS, are covered within the storyboard.
  - Centres need to ensure that candidates produce clear evidence for all criteria in AOs 3 and 4. Although the electronic file of the final video produced can form a significant part of the evidence, this needs to be supplemented, perhaps by screenshot evidence, to show the range of techniques used.
  - It is important when assessing AO4 to understand that minor gaps/technical errors might be present at Pass level.
  - Centres need to be vigilant when assessing AO5 to ensure candidates do not simply copy and paste source material. Candidates need to demonstrate understanding of the differences between different video encoding technologies
  - When discussing the quality of the product in AO6, candidates need to make clear reference to the feedback they have received. This is more than simply reporting the feedback obtained.
  - Candidates' evaluations must include consideration of the effectiveness of their own performance, as well as that of the product they create.
  
- Unit 12
  - This unit has been effectively completed by candidates in some centres in conjunction with Unit 11 by providing the sound track to be used on the video produced for that unit.

- Issues listed above for Unit 11 relating to the quality of the product and supporting documentation, evidence of understanding of encoding technologies and evaluations also apply to this unit.
- Unit 13
  - This specialist unit, where offered, is often appropriately delivered by the Music department.
  - It is accepted that the equipment required for analogue editing may no longer be available in centres. It is not within the philosophy of this specification that outdated equipment be specially acquired in order to offer the unit. Whilst real experience of analogue editing is desirable, centres encountering difficulties in meeting this requirement should contact OCR for advice.
- Unit 14
  - Some centres have used expertise from outside the centre, including university students, to provide background teaching in this unit. Where candidates have had the opportunity to experience and discuss the different techniques and techniques required in AOs 1 and 2 they have often produced work of a high quality.
  - The quality of work produced for AO1 has been variable, with some candidates demonstrating little understanding of the principles and techniques, whilst others have provided excellent examples and demonstrating clear understanding.
  - Evidence of the development of a character sometimes lacks detail and does not always clearly relate to the planning in AO3 and the final product in AO5.
- Unit 15
  - This has been offered by only a few centres, where the unit was generally well completed.
- Unit 16
  - This is another unit that has been offered by only a few centres, mainly in the FE sector. In some centres, input from the Computer Science department was provided.
  - It is important to note that candidates need to address the concepts of the software design behind the game. Some candidates concentrate on describing what is happening rather than explaining why it is happening.
- Unit 17
  - Care is needed to ensure that credit is only given for evidence that demonstrates candidates' understanding of the roles within a computer games development team and the stages of games development, rather than material that has been copied from books and/or the internet.
  - Candidates should be encouraged to make sure they explain all acronyms and jargon used.
  - For AO5 there must be evidence that candidates have created and tested a production plan for a computer game, moving on from the research carried out in previous AOs.
- Unit 18
  - Although many candidates have sufficient background knowledge and experience to meet some or most of the criteria in AO1 at Pass level they should be encouraged to use this as a starting point for more in-depth exploration. This AO offers opportunities for candidates to share experiences, knowledge, ideas and preferences with each

other. Best practice would be for the research carried out for this AO to be mostly practical, supplemented by facts/figures found from secondary research.

- Where candidates carry out secondary research, particularly in AO4, they need to ensure that they synthesise and apply the information they find.
- In AO6, candidates need to ensure that what they describe are possible future developments and not just those currently available.

- Unit 19

- This is another specialist unit that is most likely to be delivered by a specialist department, in this case Technology.
- It should be noted that the requirements of the assessment evidence grid are clarified/exemplified in the KUS and guidance sections of the unit specification document.

- Unit 20

- AO6 requires candidates to investigate the processes involved in uploading a website. The reference to ISPs in the grading grid should be read as web hosting services. This should clearly show that research has been carried out into the various services provided for hosting, explaining how these will benefit the user/client.
- There is a contradiction between the grading grid and the guidance in relation to the actual uploading of a website to the internet. Centres should follow the guidance, which states that at Pass and Merit it is sufficient for candidates to know about the processes involved in uploading a website. Only at Distinction level will they be required to actually upload their site. Although they will have chosen an appropriate and available domain name and hosting service it will be acceptable if practical constraints prevent them from using either or both of these when they actually upload their site.
- Accessibility is a key issue throughout the unit. It is important that all aspects of this are taught and understood, including common technical ways of addressing the issue. Candidates' understanding has sometimes appeared to be limited to access for people with disabilities rather than the full range of considerations listed in the KUS. The systems to improve accessibility listed in the specification are examples only. Other examples include use of text-based navigation, text-only versions, thumbnail graphics, video links (rather than automatic loading), multiple language options
- Planning is generally well evidenced and most candidates produce and test websites meeting at least the Pass criteria, with some creating products that would not look out of place in a professional context.
- The requirement for at least 10 pages suggests that a simple, single-level navigation bar is unlikely to be the most appropriate navigation system.
- Although the domain name might be limited by the choice of hosting service, candidates should show an understanding of domain names and choose their 'ideal', showing an understanding of different types of domain, eg .com, .co.uk and .org.
- In AO7, candidates need to ensure that they support their evaluation with examples taken from their website. This is more than simply providing screenshots – it should be clear that these are exemplifying the comments made.
- It is important to ensure all candidates they include suitable examples of their own strengths and weaknesses.

- Unit 21

- This unit is most commonly completed following the completion of Unit 20.

- Support/input from external agencies and from school/college technicians has been utilised by some centres when delivering this unit.
- Evidence provided for AO5 must clearly show that changes have been made to the site since it has been uploaded. This is most likely to take the form of 'before' and 'after' screenshots.
- Unit 22
  - A link with an organisation or organisations that use databases for web commerce would provide a good foundation for this unit. Although not completed by many centres, evidence suggests that candidates mainly carry out secondary research, with only a limited understanding of the issues demonstrated.
  - AO6 refers to the needs of an organisation requiring a database for e-commerce. The reference to ISP on the grading grid should be read as a hosting service.
- Unit 23
  - Support for this unit has sometimes been provided through links with external webmasters and school/college technicians. Although some of the security issues in the KUS are generic, it is important that for this unit they are all considered within the context of the security of websites.
  - The focus of AO1 should be on examples rather than definitions. It is important that candidates demonstrate their understanding through the explanations they provide.
  - It is important that all candidates cover hardware within their work in AO2.
  - Centres need to ensure that candidates use suitable examples to support their descriptions for AO1 and AO4.
  - Some centres have produced assignments which provide an overall scenario for the work in this unit. Whilst this is not absolutely necessary, this is good practice, providing a clear rationale for candidates' research and a context in which they can demonstrate their understanding, helping them focus on website security, rather than straying to more generic security issues.
  - Although it is likely that centre staff will discuss the issues with their candidates, to demonstrate independent research it would be expected that the examples provided by each candidate for AO4 would be different.
  - Some candidates concentrate their work in AO4 on the requirements of the legislation, rather than investigating how this has been applied by businesses. The examples required are examples of websites, showing how legislation/requirements have been met. The privacy directive and accessibility requirements might be the easiest for candidates to exemplify, although websites such as social networking, video-sharing and download sites might give good, easy to understand examples of copyright – not only copyrighting own material but observing copyright laws relating to the works of others.
- Unit 24
  - This unit requires candidates to conduct extensive research, analyse information and discuss issues identified.
  - Most of the significant events relevant in AO1 are listed in the KUS. Therefore, the research carried out by the candidate needs to identify some details of each event and its significance in the development of the internet. It is essential that candidates demonstrate their own understanding here. Some group discussion might be beneficial before candidates begin their portfolio work. Evidence might be provided in a variety of ways, including a written report, information leaflet, website and presentation. Since the list of events in the KUS is quite comprehensive, most

candidates attempt to address all of these, so differentiation between the grades is likely to be more on quality, depth and detail rather than range of events covered.

- AO2 requires candidates to take part in a genuine discussion/debate, in which they can demonstrate the understanding they have gained from their research in AO1 and their ability to analyse information found. They should be able to form some opinions and might prepare some notes justifying these, but the assessment requirements cannot be met by simply writing or reading notes. Evidence for this AO might be these preparatory notes supplemented by an individual, signed and dated witness statement outlining the candidate's contribution to the discussion, including the main points made. Alternatively, a video of the discussion provides good evidence, providing the individual candidates shown are clearly identified by the centre. Some candidates have taken part in an online discussion using a forum, enabling the centre to print out each candidate's contribution. However, this method might not encourage candidates to argue their points as effectively as a face-to-face discussion. Candidates should be reminded that they need to support their arguments with examples, which might form part of their preparatory notes.
  - AO3 requires candidates to demonstrate their understanding of and competence in using a range of internet features, including the collection of information in a variety of forms. It is possible that the information collected might be in independent contexts, not directly related to other work in this unit. What is important is that the context is explained, so that the relevance of the format can be assessed.
  - The presentation created for AO4 can be in a variety of formats suitable for presenting the information to an audience. It does not have to use presentation software. Where presentation software is used, access to the candidates' presentations in electronic form would aid moderation, especially when screen prints are too small for the content to be easily read. Candidates must ensure that they describe both the risks inherent in their use of the internet and protection methods.
  - AO5 requires candidates to use their understanding of recent developments, supplemented by research of news items and expert opinions to suggest possible future developments. This is not met by describing developments that are already in relatively common use.
- Unit 25
    - This unit has been delivered in a small number of centres, usually by a specialist tutor, with the majority of candidates producing excellent evidence across all grades.
  - Unit 26
    - This, and the remaining units, is becoming popular with centres that have strong links with the Business Studies department.
    - It is essential that candidates are given the opportunities to experience the project management tools listed in the KUS.
    - The guidance for this unit suggests that it might be combined with another unit which provides the client and brief for the project. At least one centre has linked it to a project that the candidate was carrying out in Business Studies, which was equally effective.
    - The guidance for the unit also suggests that better projects would be produced if they were projects for real clients or teachers acting as a client. Examples of such good practice have been seen, which added realism to the project and enabled feedback to be provided at appropriate points.

- Units 27 and 28
  - These units have been delivered in conjunction with a Business Studies department, in some cases as an extension unit for an individual candidate.
- Unit 29
  - It should be noted that candidates need to be clear about the aims and objectives of their business, which should be clearly defined within the business plan.
  - It would be expected that ICT candidates at this level would use formulas and functions appropriately within their spreadsheets.

## RECOMMENDATIONS

### Delivery

- General
  - Centres need to ensure that teaching of the concepts and skills listed in the KUS for each unit is carried out before candidates start to produce assessment evidence. It is important that all staff delivering the qualification are provided with full copies of the appropriate unit specification documents and not just the grading grid.
  - It is advised that Unit 2 is not delivered at the beginning of the course if there is a possibility of any changes/losses in the student group.
  - Centres need to ensure candidates are fully aware that it is not acceptable to include any copied material in portfolios submitted for assessment. Centre staff must be vigilant to ensure any such material is not accepted and not included in any final portfolio. Should a visiting moderator find any unattributed copied material in a portfolio this will result in the withdrawal of the entire unit for reassessment by the centre.
  - In several units a clearly understood and stated purpose and/or target audience is a key factor in enabling candidates to design, create, document and evaluate the required product.
- OCR Model Assignments
  - These must not be adapted to provide more guidance to candidates. The level of guidance provided in each assignment is that which is considered appropriate.
  - Assignments must not be marked by task; rather the grading grid provided at the end of the unit specification document should be used.
- Centre-based assignments
  - Where centres have devised their own assignments, it is essential that copies of the assignments are available to the visiting moderator on the day of moderation so that the moderator can see what candidates have been asked to do.
- Commercial resources
  - It is important to understand that any commercial resources, though targeted at this qualification, are not provided by OCR. It remains the responsibility of the centre to ensure all required areas of a unit are sufficiently covered.
  - Where resources, eg text books, are provided by the centre for units requiring candidate research, these should not be used as the sole source of information. Moderators can be expected to be familiar with the content of such resources and centres must be vigilant to ensure text is not simply copied from them.

- Internal moderation
  - Centres need to ensure that there is a rigorous and well-documented system of internal moderation, which is carried out in good time before any results are entered into a claim. Records should show the candidate name, the original assessor, the internal moderator, the original grades and the outcome of moderation, together with any remedial action taken and further checking carried out as a result of the moderation process.
  - In centres where there is only one assessor an appropriate internal verifier, perhaps a member of the Senior Management Team of the centre, should be appointed to check that the evidence in candidate portfolios is sufficient to support the grades claimed.
  - Where all internal moderation is carried out by the lead assessor it is important that there is also a system to check that assessor's portfolios.
  - It is recommended that examples of each grade for each unit from each assessor are included in the internal moderation process. Borderline portfolios provide an excellent opportunity for a centre to discuss and define boundaries.
  - Where differences are identified by the internal moderation process, remedial action must be carried out across the whole cohort, not just the individual candidates whose work was looked at. The effectiveness of any such action should be checked by considering other candidates' work.
- Moderation visits:
  - Centres are advised to book moderation visits as early as possible, giving the visiting moderator an indication of the likely units to be moderated. In addition to making it more likely that a mutually convenient date will be available this will also assist the moderator in assessing the likelihood of the visit requiring more than one day, so allowing forward planning for such an eventuality.
  - It is strongly advised that centres should take advantage of the fact that the centre is entitled to two moderation visits free of charge each year. If no units are likely to be completed in time for the first visit then centres are encouraged to request a moderation of partially completed portfolios in order to receive feedback and advice.
  - Centres should not leave the second visit too late in the year. Consideration should be given to the possibility that the visiting moderator might be unable to agree the grades awarded, requiring additional work to be completed by candidates, reassessment by the centre and a further moderation visit arranged.
  - It is important that centres provide a completed Centre Authentication Form for every moderation visit. Moderators are now required to submit these to OCR with their report and acceptance of claims may be delayed if they are not.
  - Centres need to take steps to ensure candidates do not add to or amend their portfolios (paper-based or electronic) after grades have been submitted to the visiting moderator in preparation for a visit.
  - Centre staff are requested to read carefully the letter confirming moderation visits, as this gives details of the preparation required for the visit.

## **Assessment**

- Standards
  - All assessment needs to be carried out within the context of a Level 3 qualification.
  - It is important to rigorously assess the accuracy of any descriptions/explanations given by candidates, rather than their length. Where a criterion includes the term 'explain', the requirement is for more than mere descriptions.

- Where differentiation is partly dependent upon the range of aspects covered by a candidate, reference should be made to the KUS.
- Evidence
  - Centres must ensure candidates provide clear evidence for every assessment criterion claimed.
  - Centres are strongly advised to provide electronic files of any products created by candidates. Care must be taken, however, to ensure these are the correct version and that all aspects will work as expected when viewed by the visiting moderator. Where electronic evidence is provided, a suitable computer on which to view these is also needed. This should include all necessary software and hardware (eg headphones/speakers) needed to view the products created by the candidates. Centres are advised to check before the visit that the products are displayed correctly on the system provided.
  - Centres are requested to ensure that all electronic files are suitably referenced to enable the visiting moderator to access them easily and in the correct order.
  - Where witness statements are provided these must be individually produced, detailing what has been seen and/or the content of any discussion. They should be signed and dated by the assessor.
  - Where work has been amended or improved, only the final version should be included in the portfolio unless the AO specifically requires evidence of drafting and refinement.

#### **Advice and guidance:**

- Interchange
  - It is essential that centres double check to make sure that there are no errors in an interchange claim before submitting it to the moderator. It is strongly recommended that the claim is saved and then printed (using the 'view claim history' option) and carefully checked before finalising it by pressing the 'Submit to Assessor' button. This reflects the existing best practice when dealing with examination entries and coursework submissions for General Qualifications.
  - Ensure that the actual assessor's initials are entered for each portfolio assessed, rather than those of the head of department or examinations officer, as this has implications when selecting the sample, also when accepting/withdrawing claims.
  - Ensure that all candidates have been registered well before any moderation dates, so that any issues can be resolved before claims are submitted, ensuring the moderator has a complete claim to sample. Entering candidates at least two weeks before a claim needs to be made, then checking that the candidates are visible on the system after 48 hours, should ensure that there is time to investigate any difficulties and solve any problems before making the claim.
- Inset
  - OCR runs a programme of training events specifically for teachers of this qualification. Details can be found on the OCR website.