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Principal Moderator Feedback

June 2011

GCSE Applied ICT
5332 - ICT in Organisations

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June 2011

Unit 5332 – ICT in Organisations and Unit 5333 – ICT in Society

June 2011 is the final moderation session for both portfolio units – 5332 (ICT in Organisations) and 5333 (ICT in Society). It is pleasing to see that the quality of response continues to stabilise and improve. Whilst a few candidates did not apply the necessary skills in the vocational context despite research and investigation, the majority had produced good quality evidence of their ability to apply their knowledge of ICT across both portfolio units at all levels. There is sound evidence of a good understanding of the specification and its delivery, both on the part of the teachers and the candidates themselves.

Where Centres have done well:

Where centres have done well, candidates have covered and learnt much about the application of ICT in business and society (especially when combined with their performance in 5331). These candidates are well deserving of their GCSE Double award. The most successful outcomes were in centres where the philosophy of both vocational and independent work has been applied. Centres where candidates were encouraged to visit organisations produced more comprehensive portfolios. Candidates who had looked outside their school/college environment and had visited real organisations gained significantly higher marks, as long as they concentrated on a single system rather than trying to investigate and document the whole organisation. These candidates accessed the higher mark bands because their work demonstrated independently a greater understanding of how ICT was used within the functions of the organisational system. Where candidates chose very narrow or limited systems there was little scope for them to access higher mark bands. In the case of 5333, ICT in Society, when case studies had been used rather than inviting visiting speakers or allowing candidates to interview their own 'live' adult or special needs, candidates had been able improve the quality of their evidence. Centres, in general, continue to make sound use of the Unit Marking Guides, which when coupled with detailed page number annotations and an indication of any professional judgment applied, have greatly aided the moderation process. There has also been an increase within the portfolios of signposting of the evidence by the candidates themselves.

Where improvements could be made:

A few centres still seem to have little awareness of the grade descriptors found in the specification. These give a general indication of the required standard at grades A, C and F. The skills, knowledge and understanding for this award must be applied in a vocationally related context. This calls for involvement with ICT beyond the educational environment. Candidates are expected to show knowledge of ICT terms and definitions; explore, develop and interpret information; use ICT to share, exchange and present work; reflect on how they have used ICT and the impact of ICT in the wider world. Where centres did not do so well, it is because they have underestimated the demands of the qualification and the GCSE Double award equivalence across grades A*-G.

In 2a, some candidates were limited in some of their responses by their choice of organisation and subsequent restrictions. This meant that opportunities to describe the technology could not be developed, restricting them to lower mark bands. There were fewer cases of candidates choosing an organisation where it was almost impossible to describe a virtually non-existent usage of ICT. There were fewer instances of students basing their investigation on two different organisations for stands 2a and 2b, which in previous series had led to two disparate reports or a comparison of the two; neither of which enabled the student to achieve higher mark bands. There were fewer incidences of candidates to using their work experience placements as a basis for this strand; those that did produced evidence with limited success, since most work experience placements are not a suitable basis for the level of investigation and study required by the qualification.

Centres continue to heed earlier advice that candidates should be guided to choose either a spreadsheet or database solution. This increased candidates' chances of securing higher marks.

The key to achieving higher band marks in Unit 3 lies in explanation and evaluation that is based on clear detailed descriptions which show a good understanding of the functions and capabilities of the particular ICT. Some centres gave marks for evaluative statements that did not exist or were too weak.

Many centres had not interpreted the components of Unit 3 correctly and had not guided candidates to use actual, specified individuals and groups. Fewer centres remained unaware of the requirements of the syllabus, with candidates submitting generic answers on 'IT and candidates' for 3a, 'IT in work' for 3b, 'IT for disabled people' for 3c and 'IT in the community' for 3d. Centres are advised to review the document, which details categories of technology for this unit. In general, strand 3e was more successful when tackled as a discrete component rather than as an integral part of the other four components. It is important that those individuals and groups studied in 3a-3d are linked to the relevant legislation.

Principal Moderator's Report for Unit 5332 – ICT in Organisations

The key focus for this unit is **systems**. Candidates are expected to describe clearly the work of the identified organisation, in terms of three or four of its main functions or systems, preferably in terms of input, processing and output. They should describe fully how ICT is used in Information, Communication and Functional purposes. The ICT system described in 2b should relate to one of the systems identified in 2a and candidates should consider the five main component groups of hardware (input devices, output devices, processors, ports and cables and storage devices) and software and their function within the chosen system - descriptions should include technical details of components and explain the purpose of the application software. In some centres, candidates are still evidencing strands 2a and 2b together; unless the particular elements are well signposted, this often causes problems with identifying where the criteria have been met.

Strands 2c and 2d are about creating a complex system for a specific user and purpose. Complex problems will involve the use of more complex processes associated with the chosen software. This may include importing data from another package or customising the software for ease of use. Databases should be relational, and include searches, sorts and queries (on multiple fields with multiple criteria for the higher mark bands). Further, candidates may include a user interface such as a menu or switchboard and a mail merge facility based on a query. Spreadsheet systems will include complex formulae and functions, absolute cell referencing, look up tables and macros. Throughout the emphasis should be on **'fitness for purpose'**. Strand 2c focuses on the **design** of the system - the scope of the project, the objectives of the proposed system and draft/final sketches of inputs and outputs that are fit for purpose. In addition, as part of the design process, candidates should consider which parts of the system will be tested and how, documenting this in a test plan. The focus for 2d is **implementation**. Here candidates should provide full details of how they implemented their designs, how these designs were tested using the plan from 2c, the outcomes of the testing and how they have used the results to modify or improve the initial designs. The evaluation should consider weaknesses as well as strengths of the system and, to access higher mark bands, candidates should document how the system could be improved. The user guide should be detailed enough for an inexperienced user – with instructions how to load the system, add, enter and manipulate data and how to troubleshoot basic problems. The user guide should be about using the system and not the application!

Strand 2a

Most candidates were able to describe an organisation, identify its main purposes and describe how those purposes used ICT. Some candidates did not achieve the higher mark bands because they were not able to directly link and explain how the use of ICT helped the organisation to achieve its stated purposes, aims or objectives. Many candidates were able to identify the organisation's purposes, aims or objectives in their introductions, which made it easier for them to evaluate since they could refer back to them when explaining the organisation's use of ICT.

Where candidates investigate an organisation, either as part of a formal group or independently, they should be thoroughly prepared for the visit. This can be done through web based research, letters to the company and brainstorming in the classroom. It was pleasing to see some centres use a range of organisations, expanding the candidates' experiences and allowing the student to focus on **one** of them for the purpose of this strand and strand 2b. Some organisations chosen did not include a suitable range of functions and ICT, e.g. a nightclub.

Where centres persisted in choosing their school as the basis for study the evidence lacked detail, as there was simply too little scope in terms of a range of functions. In other cases, those studying other companies gathered the basic information but lacked evidence when it came to the organisation and its purposes, aims or objectives. It is not sufficient to

state these alone, they must be linked to the ICT used to perform or support the related functions.

Candidates who just achieved the highest mark band did so on the strength of one evaluative statement, only as long as they had given sufficient detail on which it could be based. Generally, candidates at centres who organised visits/guest speakers, were able to describe in greater depth and with insight, the technologies used, achieving the higher mark bands because they were able to describe an ICT system fully. Candidates who worked from case studies found it much harder to identify an ICT system and often described a basic system that could have existed anywhere. It was pleasing to note that fewer candidates used their work experience placement as a basis for this component. Centres are to be complimented for taking this advice on board, since the local organisation in which they are placed is not often sufficiently complex to enable them to describe, explain and evaluate a range of functions and technologies.

Candidates who failed to reach the middle mark range usually failed to identify a wide enough range of purpose or did not explain how ICT was used, e.g. they explained the finance function but did not clearly describe how the ICT was used within that function. Candidates who structured their research into Functions (purchasing, sales, finance, distribution, human resources, etc), Information and Communication tended to score well. This approach showed a greater understanding of how ICT was used and how the organisation functioned as a whole.

Where candidates had used the Internet for research into their chosen organisation (whether an actual visit had taken place or case study had been used), there was clear evidence of copying and pasting from the website, but this had not been credited in a reference or bibliography. Evidence from candidates who had not had an opportunity to visit a 'live' organisation showed a lack of understanding.

Strand 2b

In this component, candidates addressed most key component groups and actually linked them to the purposes within the chosen system. However, this was not always the case. Some candidates had managed to include images of the actual hardware within the organisation and this formed a useful adjunct to their written descriptions. However, in some cases candidates had not identified a single system within the organisation and concentrated solely on the hardware and software of the organisation or discussed the organisation as a whole. There was often a generic list of components, but no detailed information given on their use in the chosen organisation, e.g. where, when and by whom and how this linked to the objectives. One of the main reasons why candidates failed to gain high marks was because they had not covered all of the five component groups (input, output, processor, ports/cables and storage) and software. Categorisation of the components almost always achieved higher marks. Ports and cables were the most frequently omitted component; where included, candidates showed little knowledge. Some candidates remain confused about the difference between processors and processing –

explaining how the data was processed rather than giving technical details of the actual processor used (its speed, type and so on). Those missing out a component group did not move beyond the lowest mark band. Higher mark bands required the student to evaluate the extent to which at least one component or some software meet the organisation's purpose. Many candidates found this difficult and relied on descriptions of the component's use rather than exploring its limitations or alternatives. In a few cases, candidates made recommendations about what an organisation could use, which is not part of the specification.

Overall Comments for Strands 2c and 2d

Many candidates produced a wide range of interesting and innovative applications for 2c and 2d. Candidates who used real problems had the edge over many of those using case studies because of the opportunity to clarify the problem. Identification of the inputs, processes and outputs is essential if candidates are to be able to break the proposed solution down into logical steps. There were many more instances of before and after screen shots to substantiate the testing. User Documentation was much improved, although some was simply a restatement of some of the "testing" that had gone on. Evaluations, whilst much improved over last year, varied from peer questionnaires to single sentences. This series, there was an increased range of ideas from centres accompanied by some robust design sketches of both inputs and outputs. However, centres are reminded that they must choose a single mark band within the Unit Marking Guide, which should reflect the independence of the work and the complexity of the solution. This is not a pick and mix option!

Strand 2c

Candidates were required to provide some indication of the scope or purpose of the solution with objectives. In order to gain two marks here, the description should be detailed enough for a third party to understand. Objectives were better constructed which made it easier to assess the extent to which their eventual solution met its original purpose and aided the candidate in identifying associated performance indicators.

As a result of their focus on the design elements and the greater choice of solutions based on spreadsheets and databases, some candidates were able to achieve the highest mark band in these components. Some centres had not fully understood the meaning of independent solution to the problem and there were cases of differentiation occurring only as a result of using a different name for the organisation, business or company for which the system was being created. Fewer centres relied on the video database example from the teacher guide. Centres that had designed their own assignments still gave candidates too much structure by indicating that a database was required, or giving too much information about the problem. As a result, candidates were not able to define the scope of the problem themselves and were not able to choose the appropriate software for themselves, thus limiting the candidates to the middle mark band. In some portfolios, there was clear evidence of the use of scaffolding and structured

templates to document the proposed solution, especially where candidates had omitted to delete 'instructions'.

Most candidates who qualified for higher mark bands on independence and complexity, did not achieve all the marks because elements of the design were missing. Some credit was often applied retrospectively from 2d. Candidates submitted copies of tables from databases already created to show table design rather than annotated sketches. This indicated that candidates had implemented first, and then reverted to the design stage! In this section some candidates had included screen shots of the final implemented solution as design evidence, and as such could not be awarded marks for these. Those gaining the highest marks in 2c produced handwritten drafts of input screens and output screens. Some innovative candidates had also used a bitmap application to draw and design their planned screens and indicated processes with handwritten relationship diagrams or examples of formulae to be used. Candidates had put more effort into the design steps, in that these were detailed and could in many more instances support third party implementation.

Many candidates provided test plans, which ranged from a simple statement of intention to a detailed grid. Often test plans were included only in the implementation section of the project, and not as a separate plan. Candidates still need to develop their ability to identify abnormal or extreme data as part of the testing procedure, which is expected at the higher mark band. Most candidates also provided lists of hardware and software, but referred to packages such as Excel or Access rather than a generic type of software application. A few had actually discussed the pros and cons of each software type in terms of their propose solution.

The majority of centres managed to use complex processing and more produced a complex solution. However, some candidates were able to produce a basic spreadsheet or database (with some advanced features incorporated into them) but few of these had any idea as to what they were actually doing or why, which is linked to the lack of detail when describing the scope of the project. There was a lack of evidence (e.g. witness statements within the Unit Marking Guide) that the work had been carried out independently.

Strand 2d

Most candidates provided evidence of implementation, testing, evaluation and some user information. Marks for implementation related to the objectives outlined in 2c. Where objectives were difficult to identify, candidates lost marks. The better solutions had clear objectives, which were then reflected in the implementation and evaluation. Most candidates' solutions included complex processing. Test plans were not always accompanied by suitable evidence as to whether the test was or was not successful. Fewer candidates attempted a complex solution that they were unable to achieve successfully.

Most candidates undertook some form of testing. Higher marks were reserved for candidates who had made some constructive use of the results.

Many candidates achieved the lower marks as they used their test plan as a checklist and did not describe or use the results in any way. Evidence in the form of before and after screen shots enabled the candidates to make constructive use of the testing process.

Most candidates evaluated their solutions to some extent. A significant number lost out on higher marks because they evaluated how well they had approached and completed the task rather than evaluating the usability of their system. The better evaluations listed strengths and weaknesses of the system and then indicated areas for improvements with some indication of how these could be achieved. Evaluation was sometimes robust – with candidates discussing the strengths and weaknesses but areas for improvement were not valid or fully considered. It was pleasing to see some had evidence from an end-user as to how they regarded the final solution.

Some user guides were of very good quality. The best guides were clear and well laid out with a contents page, screen shots of the actual screens and troubleshooting. Fewer user guides focused on how to implement the system, rather than acting as a guide on how to **use** the system. There were still examples of guides which showed the user how to create the system for themselves, which were complicated and not meaningful. Many guides were focused on users of ICT rather than the novice, making them less helpful and instructive.

Where candidates failed to achieve higher marks, it was because not all elements – construction, testing, user guide and evaluation – were completed. Many assumed implementation stages with finished forms and reports, but provided no evidence of actual construction to show skills and understanding of the software capability. There was some evidence of good solutions, but the lack of annotation and inadequate testing lost these candidates valuable marks.

Grade Boundaries

Centres are reminded that Applied GCSE ICT is an Awarded qualification. As such, grade boundaries are subject to review each series for both written paper and coursework units.

Grade boundaries for this, and all other papers, can be found on the website on this link:

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