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Principal Moderator Feedback

Summer 2013

Principal Learning in Information Technology (ZIT30)

IT301 – The Potential of Technology
IT303 – Professional Development
IT304 – Technology Solutions
IT305 – Managing Technology Systems
IT306 – Multimedia & Digital Project

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Level 3 Introduction

Most of the work submitted by the centres for the June 2013 series was found to be reasonably accurately assessed but unfortunately, the assessment of some learners was found to be lenient. This resulted in some samples not being in agreement with National Standards.

Centres are advised to review closely the quantitative requirements of the 'what you need to cover' and 'guidance for allocating marks' section of the unit specification when assessing learners work.

More centres were using centre derived assessments and moving away from the Tutor Support Material (TSM) assignments. The centres that derived their own centre assessment on local concepts or needs achieved higher marks.

It was pleasing to see a further increase in the number of centres who provided electronic submission of work.

In terms of administration, work was well presented and organised with centres submitting the required Learner Record sheets with their portfolios. The majority of the centres provided evidence of awarding marks, either through portfolio annotations or comments made on a copy of the marking grid.

Most of the centres provided the appropriate evidence for Marking Grid B. Centres should address this in future series by providing detailed witness statements and/or annotated photographs.

Centres should refer to the 'Centre Guidance on Controlled Assessments requirements' for the Principal Learning for further guidance.

Unit 1: The Potential of technology

General Comments

The majority of the work submitted by centres for the June 2013 series was found to be accurately assessed, except in a few instances.

Most learners are now selecting more suitable case studies that allow them to access the full range of marks available. Centres should continue to advise learners that when they are selecting case studies for each learning outcome, they need to choose case studies that allow them to fully explore the range of evidence required.

Learning Outcome 1

Marking was sometimes over generous in crediting the role of legacy systems and emerging technologies in achieving organisational objectives. This was mainly as a result of learners failing to identify an appropriate organisation using the legacy system or emerging technology and then being unable to explain how the legacy system or emerging technology is used by the organisation.

As for previous sessions, it was disappointing to still find that in some instances learners are still selecting inappropriate examples of legacy systems, for example paper based systems. This meant that the learners were then unable to discuss the elements of the legacy system i.e. hardware, software and data compatibility issues.

Examples of Legacy systems that could be used for LO1 are:

- Banks – Barclay, NatWest, Lloyds TSB
- Graybar Electric Company
- British Rail use of Total Operations Processing System (TOPS)
- Various NHS Legacy systems
- Britain's Serious Organised Crime Agency Legacy Systems
- Charities use of Legacy systems
- South Wales Police (SWP) various Legacy systems
- British Telecom System X
- NASA's Space Shuttle

Some centres had awarded marks in MB3 that were not appropriate. Centres should note that work in this mark band must have a full explanation of the role that legacy systems and emerging technologies play in helping organisations achieve their goals, illustrated with relevant examples from three different sectors.

The role of emerging technologies was also sometimes confused. Centres are advised to review closely the quantitative requirements of the ‘What you need to cover’ and ‘Guidance for allocating marks’ section of the unit specification for examples of emerging technologies, such as:

- Mashups
- Location-aware applications

- Virtualization
- Nanotechnology
- RFID
- VoIP

It is important to consider emerging technologies where real examples can be studied as this will allow learners to explain how the technologies help the organisation achieve their goals.

Learning Outcome 2 and 3

As in the previous session generally these learning outcomes were more accurately assessed with learners providing several relevant and current examples of technology used by organisations and individuals and providing some explanation as to how they were being used to innovate.

Examples of successful organisations' use of technology that could be used for
LO2 & LO3 are:

- Oyster Card System
- Norwich Union Pay As You Go insurance initiative
- Environmental Agency on-line rod licence
- Glasses Direct
- Next online shopping
- ASOS online shopping
- Virgin Mobile data Migration

Examples of unsuccessful organisations' use of technology that could be used for
LO2 & LO3 are:

- BAA Terminal 5 Baggage System
- NHS computerised patient health records, eRecords
- London Ambulance
- EDS and the Child Support Agency (2004)
- Passport Agency 1999
- Student Loan Company
- Education Maintenance Allowance (EMA)
- Craven Books
- Royal Mail Track & Trace

Common examples used for individual successful use of technology were:

- Jack Dorsey Twitter
- Pierre Omidyar eBay
- Mark Zuckerberg Facebook
- Bill Gates, Paul Allen Microsoft
- John Shepherd-Barron, Automated Teller Machine (ATM)

For learners to achieve marks at the higher end of MB1 they must have identified at least one unsuccessful and one successful example of organisations **and** individuals innovating through technology. To achieve marks in MB2 and 3 learners must use three relevant examples (both

successful and unsuccessful) of organisations **and** individuals using technology to innovate.
Learners who do not fully explain the technology used or assess the impact of the innovations will limit themselves to mark in the lower range of this mark band.

More discussion is required on how organisations and individuals innovate through and with technology, focusing on the requirements of the 'what you need to cover' and 'guidance for allocating marks' section of the unit specification, for example:

- to improve competitiveness e.g. web presence, online ordering, improved communication, automation, product miniaturisation
- to improve service e.g. customer relationship management, online ordering, webinars, forums
- to reduce carbon footprint e.g. hibernation when not in use, double-sided printing
- automated building management (focus should be on the technology involved)

On the whole it was felt that learners commented on factors affecting success or failure, but often didn't develop this into considering the impact on competitiveness and service. Learners also need to discuss the technology supporting the innovation in more detail.

Learning Outcome 4 and 5

Similarly the marking of these learning outcomes was more accurately assessed.

These learning outcomes are about recommending innovative technology enabled solutions for two contrasting organisations, identifying both benefits and risks.

The organisations chosen in some cases seemed to have limited scope for achieving marks. Some learners had made recommendations for companies already using the technology, such as suggesting a well-known supermarket chain introduce an ecommerce website or use self-service check outs.

Learners should be encouraged to use SME's for their case studies as this generally offers a wider scope for recommending innovative technology-enabled solutions. Learners also need to make sure that they choose contrasting SME's so that their recommendations are not repeated.

It was found that most learners had not fully assessed the possible role of the new technology as outlined in the 'what you need to cover' section of the unit specification, for example:

- underpins specific business processes
- safeguards business continuity
- drives performance improvements
- facilitates decision making

Learners did not fully assess the possible objectives of the new technology, e.g. to increase sales/revenue, to improve service and to gain a competitive advantage.

Whilst many learners had produced some good work and had presented some recommendations for some innovative technology-enabled solutions, most learners had not fully assessed the opportunities (e.g. new markets, new or improved products / services, cost reduction, outsourcing) and risks (e.g. costs, over expansion, staffing issues).

The learners that used a SWOT analysis to identify the opportunities and risks achieved a higher grade. Centres might wish to employ methods such as a SWOT analysis or De Bono's "Thinking Hats" techniques in order to get learners to assess the opportunities and risks that their recommendations will bring.

Centres should note that the specification requires a number of recommendations to be made and marks are awarded accordingly. For example, to achieve full marks in MB1 and marks in MB2, the learners must have presented at least three recommendations for two organisations.

Centres often awarded marks from MB3 inappropriately. To achieve MB3 learners must have presented a set of recommendations (more than three) for innovative technology-enabled solutions for two contrasting organisations, fully assessing benefits and risks.

Lessons to be learned

Learners did not clearly identify the elements of the legacy system such as hardware, software and data compatibility issues. Some learners had discussed legacy system and emerging technologies but failed to identify how they achieved the organisational goals.

In some instances learners selected inappropriate examples of emerging technologies and legacy systems and were then unable to achieve the higher MBs requirements.

Learners must have identified at least one unsuccessful and one successful example of organisations and individuals innovating through technology to achieve marks for LO2 and LO3.

Some inappropriate organisations were chosen for LO4 & LO5 that provided limited scope. Learners should be discouraged from focusing on 'Blue chip' companies (as a majority will already be using new technologies) but instead focus on SME's. Learners did not fully assess the possible objectives of the new technology for example to increase sales/revenue, to improve service and to gain a competitive advantage.

Centres are advised that there is an exemplar portfolio for this unit available on the Edexcel website. Centres are also advised that version 3 of the Tutor Support Material is also now available on the Edexcel website which includes an updated assignment brief for this unit.

Unit 3: Professional development

General comments

A larger majority of the work submitted by centres for the June 2013 series was found to be accurately assessed. More centres are now moving away from the sample assessment found in the TSM and are using centre derived assessments that allow them to access the full range of marks available.

Learning outcome 1

Most learners had given an explanation of the principles of effective communication in business today, for example the use of language, style, format, conventions, fitness for audience and purpose, and assessed the implications of using different communication media to meet objectives in a range of business contexts, using relevant examples and including comments on benefits and limitations.

The centres are advised to review the “what you need to cover” section of the specification for guidance of business-related communications for a range of common business situations: electronic (e.g. websites, blogs, emails, text messaging and information points), and print (e.g. newspapers, magazines, reports, brochures and posters).

Again only a few learners provided examples of the use of voice in communication (e.g. telephone, face-to-face, radio and podcast).

Learning outcome 2

Learners had identified the teams differing personal styles and behaviours and explained how their behaviour could be adapted to suit different roles and situations, although this component was not present in all portfolios. Centre are advised to review the ‘what you need to cover’ section of the specification which gives examples of personal styles and behaviours i.e. aggressive, responsive, professional/unprofessional, helpful/obstructive, organised/disorganised, positive/negative; verbal clues, body language; speed and quality of work and their impact on others.

Learners achieved the higher mark bands when they considered and identified each member’s personal style and behaviour, allocated roles and responsibilities to suit the group member’s style and then fully assessed the impact on teamwork. They also fully explained how behaviour can be adapted to suit different roles and situations, illustrated with some well-chosen examples of group work activities.

Learning outcome 3, 4, 5 and 6

The MB3 learners had produced a bibliography that demonstrated how they investigated the challenge or opportunity in a business context, using a range of appropriate sources to gain a sound understanding of its nature and scope. They also used an appropriate spreadsheet model and complex mathematical concepts to explore and understand business dynamics and find solutions that demonstrated sound awareness of audience and purpose.

Some learners use of mathematical concepts were a little restricted (with limited use of sum) and they could have used the spreadsheet model to fully explore business dynamics such as sales forecasting, cash flow, five-year plans, net present value and profit and loss. These learners achieved the lower mark bands. Other mathematical concepts could include statistical analysis, probability, estimation, projection and trends to create a costed proposal.

Some learners prepared a complete well-researched, fully justified and persuasive proposal for stakeholders that made recommendations with written justification that considered ethical, social, professional and legal constraints. Most learners had taken account of legal and other constraints and marks were awarded appropriately depending upon the depth of their analysis.

Learning outcome 7

The higher mark band learners produced an effective team plan and made individual notes throughout the team activity to monitor their own progress and record team discussions. This included initial meetings, agreed objectives, allocated roles, a clear plan or schedule, decisions made and their individual contribution to teamwork.

Higher mark band learners agreed objectives and identified what need to be done, for whom and by when. They also used Gantt Charts to track and record team progress, created a document to record the allocation of roles and responsibilities, provided evidence of how the team worked cooperatively and provided examples of effective communication. A record of team meetings were produced demonstrating progress monitoring and a summary to demonstrate consideration for others and how they responded constructively to feedback.

The learners that achieved the higher mark bands also provided a continuous commentary on progress.

Some excellent use of Blogs seen to evidence this learning outcome.

Learning outcome 2 and 8

No MB3 work was seen for ‘evaluation’ as one of the requirements for MB2 is that the learner should have made evaluative comments on the performance of the team, “including feedback from a reviewer”. It wasn’t always clear in the evaluations presented that such feedback had been sought or referred to, therefore, it was considered that some work in this section had been over-generously marked.

Learners should evaluate their own personal performance identifying strengths and weaknesses. They should record feedback from others on their work, using comments to identify areas for improvement with particular attention to team effort and interaction with others. Feedback may focus on:

- Contribution to teamwork

- What went well/what went badly
- Effectiveness of the team
- Personality mix
- Contribution of individuals

Feedback offered to others in the team also needs to be identified and learners should provide feedback from a reviewer.

Some detailed Observation Report and Peer assessment was seen for the presentation and teamwork elements of mark grid B.

Mark grid B – Moderation

Although it isn't required, centres are submitting quite comprehensive evidence to back up their mark grid B marks.

Lessons to be learned:

Centres that derived their own centre assessment on local concepts or needs achieved higher marks.

More examples of voice (e.g. telephone, face-to-face, radio and podcast) were seen for LO.1 and this provided the opportunity for the learner to achieve the higher mark bands.

There was clear evidence of learners having investigated the challenge and used a range of appropriate sources to gain an understanding of requirements. These MB3 learners had produced a bibliography that demonstrated how they investigated the challenge or opportunity in a business context, using a range of appropriate sources to gain a sound understanding of its nature and scope.

A record of feedback from a reviewer is also required for the high mark bands.

The complexity of spreadsheet models had improved in this moderation window with learners using more appropriate spreadsheet model with complex mathematical concepts to explore and generate sound alternative solutions that demonstrated sound awareness of requirements.

When Gantt charts were used to track and record team progress the learner was able to move into the higher make bands. The learners that achieved the higher mark bands also provided a continuous commentary, on both their own and the team's progress through a 'blog or diary'. The use of blogs provided a valuable platform and opportunity for the learner to provide commentary on team and individual performance and progress throughout the assessment activity.

Unit 4: Creating technology solutions

General comments

In general, the assessment of the work seen in the examination window was found to be in line with national standards and accurately assessed. The majority of work see was to the required technical level and some excellent database systems were developed and implemented by the learner.

Learning outcome 1

The learners that interrogated live databases were able to provide a more detailed explanation of the role of the database by identifying tasks performed, inputs and outputs, data processing and provide an overview of security. These learners also provided more detailed discussions of database interaction, including compatibility of components, linking systems and sharing and transferring data, and were able to identify all of the key components such as input, output, storage devices, user interface, data structures and database reports.

However, some examples used did not allow the learner to fully investigate the roles, interaction and key components of the database systems and only achieved the lower mark band requirements. Centres should ensure that the databases are suitable and that learners are given the opportunity to achieve the higher mark bands.

Learning outcome 2 and 3 Functional specification

Some learner had produced a comprehensive functional specification that covered all of the requirements of the database such as hardware and software, inputs, outputs, processing, performance, security requirements and success criteria.

Specifications were comprehensive and clearly identified success criteria. The majority of learners had normalised the data to third normal form and taken account of this in their implementation of the system design.

Some excellent examples of program code were used to handle database objects and controls, and locate and edit information. However, some examples of coding produced slight variation in the marks awarded between the centre and the moderator. These arose because of the requirement at mark bands 2 and 3 to use program code to customise the application. Some learners provided screen prints of macro code that did not handle database objects and controls or locate and edit information. Centres should ensure that evidence of program code is seen in future series.

Clear evidence of efficient data handling procedures that meet all of the specified criteria (e.g. add, import, export, amend, delete data and extract information) met the specified requirements.

Testing for functionality, performance and usability had improved from last series and allowed learners the opportunity to achieve the higher mark bands. Learners that achieved the higher mark bands produced a detailed

test plan that evidenced thorough testing for functionality, performance and usability.

Learning outcome 2 and 3 User interface

Learners that achieved the top mark band developed a HCI user interface to group properties and objects, buttons, validation and automation. They produced accurate report formats (e.g. features, field selection, grouping and sorting) that met all of the specified requirements, including an effective user-friendly interface that aided accurate data entry and reports that presented information effectively. Some learners also used list and dropdown boxes for data entry.

Mark band 3 learners produced a test plan that evidenced thorough testing for functionality, performance and usability.

Learning outcome 4

The quality of the technical detail and layout of the Operational Information presented by the learner to demonstrate how to use the system had improved from the past examination windows. A troubleshooting section was found in the majority of the operational information that used appropriate layout along with a contents page in order to help the user understand how to use the system. However, some format of instructions and screen prints did not demonstrate awareness of user needs. Over-use of arrows pointing to different parts of a screenshot can make user guides more complex and hard to understand.

Where work was over-credited this was due to it not being clear how data entry was being aided by the forms and the fact that many of the reports were fairly generic in layout and formatting.

Learning outcome 5

To be eligible for MB3 the learner must have:

- Reviewed the system using acceptance testing and observation, making full use of the feedback to identify errors and possible enhancements.

- Prioritised action to be taken and produced an effective workable implementation schedule, demonstrating an astute awareness of user needs.

Some learner had created a testing document and asked others to fully review the system using acceptance testing and observation. They made full use of the feedback to identify errors and identify possible improvements.

Learners prioritised actions to be taken and produce an effective implementation schedule that demonstrates awareness of user needs.

Lessons to be learned:

Learners that interrogated live databases to were able to provide a more detailed explanation of the role of the database and interaction of key components.

Although some testing for functionality, performance and usability had improved, the majority of learners presented numerous pages of the same testing strategy.

Providing a print out and annotating the program code would demonstrate how it was used to maximise efficiency, for example handling database objects and controls, and locating and editing information would support the higher mark band requirements.

Although the standard of the Operational Information provided for LO.4 is improving the majority of the learners are not providing a troubleshooting section and this limits the learner's ability to move out of the lower mark bands. In LO.5 most of the work seen had improved but some learner work was limited to MB1 as MB2 as it requires the learner to prioritise action to be taken and produce an effective implementation schedule. The actions do not have to be implemented.

It was pleasing to see more electronic copies of databases presented for the moderation process. This made the process of moderating this unit simpler for the moderator and allowed the moderator to assess the functionality of the database system.

Unit 5: Managing technology systems

General comments

A larger majority of the work submitted by centres for the June 2013 series was found to be accurately assessed and in line with national standards. More centres are now moving away from the sample assessment found in the TSM and are using centre derived system changes that allow them to access the full range of marks available.

Learners need to:

- Produce technical support information for the management and security of a technology system.
- Plan for a system change, applying the principles of change management to safeguard business continuity.
- Assess the impact of problems in technology systems and provide advice on how to guard against and handle them.

Where the system change was clearly defined and scoped, learners were more able to achieve high marks as they were clear on what needed to be achieved and how the principles of change management applied in these particular cases.

There are still examples, however, of the system change being either undefined or generic without a clear need within the business; these kinds of assignments make this unit more difficult for learners to progress. Examples of these included the installation of wireless networks or integration of PDAs or other handheld devices into the network without any clear reason as to why these changes need to be made.

Learning outcome 2 and 3

In these learning outcomes there were some poor examples of plans that did not include timescales or define roles and responsibilities with the groups; this is a step backward for this series.

Centres need to ensure that the task set in these learning outcomes is clearly defined and scoped in order for learners to be able to plan effectively for the system change. We are still seeing too many system changes that are unfocused and generic.

Capacity planning was identified as an area where learners' knowledge seemed to be limited judging from the evidence provided.

Learning outcome 4

Some learners produced a risk assessment that identified several types of problems in technology systems such as human errors, equipment errors, natural disasters and deliberate acts and gave an indication of the risks involved.

Some learners also briefly explained the risks involved, the likelihood of risk occurring, the effect of the risk and provided some advice on how to handle the problem in each case.

To be eligible for MB3, learners must have fully assessed the impact of several types of problem in technology systems such as software bugs, viruses and/or user errors. They must also have explained the risks involved, impact on the user, business, system and data, fully assessing the impact and providing detailed advice on how to handle the problem in each case.

Learning outcome 6

The quality of the technical support documentation on how to safeguard business continuity is improving, however some learners are not using diagrams and images very effectively in order to make their guides 'easy to follow'.

Mark grid B – Moderation

Although it isn't required, centres are submitting quite comprehensive evidence to back up their mark grid B marks.

Lessons to be learned:

Some candidates demonstrated some of the requirements of system change, but for higher marks candidates should demonstrate a sound awareness by discussing the purpose of the system change, applying the principles of change management including planning, procedures and people and focus more on procedures and the people elements of the change management process.

In some cases no workable plan was presented for the required system change and business requirements were unclear.

Unit 6: Multimedia and digital products

General comments

Generally centres set their own tasks for this unit. Where this is the case, centres should make sure that they provide learners with the opportunity to access the full range of marks. Centres generally assessed this unit accurately and in line with national standards.

After a series a year ago where it was greatly encouraging to see learners producing more varied examples of multimedia websites and products this series was relatively disappointing as some centres asked their learners to produce virtual tours or in some cases very simple videos. The standard of multimedia products presented has slipped somewhat in quality in the last two series, and what should be an exciting piece of work for learners to complete has become a little stale of late.

Some learners were only just meeting the criteria, especially in terms of the range of types of multimedia that should be used across the website and multimedia product, with relatively little sound and video being used this series in comparison to others.

Centres do need to take care to monitor the quality of images being used by their learners, as there was a wide variation in quality, especially where images had been taken from the internet and used as secondary assets.

The multimedia products, although just about meeting the criteria, were generally uninspiring virtual tours that were nowhere near as innovative as some of the video games seen in the winter series; it would be preferable to see centres working a little more out of their comfort zone in this regard where possible.

Learners need to:

- Describe different types of digital media and their use for a variety of purposes.
- Design, develop and test an informational website that meets a set of business requirements.
- Design, develop and test a multimedia product that meets a set of business requirements.
- Evaluate the impact and effectiveness of your website and multimedia product, identifying opportunities for improvement.

Once again, where learners had access to the business or individual the websites and products were being created for, they were much better at meeting the business requirements of said organisation, and better quality primary assets were created.

Learning outcome 2, 3, 4 and 5

Centres should be wary of setting tasks that require few, if any, primary assets. There should be evidence of primary and secondary assets across the website and multimedia product.

The quality of the websites produced in this series was good, with many centres choosing to embed the multimedia product within the website. Although this is not a requirement, it does make the evidence for the unit a little more cohesive for the learners.

Centres are reminded for the need for design and testing evidence to support the informational websites in this section. Designs should be up-front designs such as structure diagrams, not screenshots of the website being produced.

Testing of impact for the multimedia product was still quite rare, as was a clear link back to the audience profile when evaluating the websites and products.

Learning outcome 6

To achieve full marks in this LO, the learners must have fully evaluated each of their products, giving a sensible assessment of their fitness for audience and purpose, and made some sensible suggestions for improvement in each case. Learners should comment on how each improvement would enhance the product and demonstrate an astute awareness of audience needs.

Some evaluations were marked too generously and focused on the difficulty encountered by the learners rather than the quality, and most notable by its absence, impact of the multimedia products and websites. Accessibility was also poorly addressed.

Lessons to be learned:

- Centres need to note the specification suggestion of a “computer game, simulation, discovery board, e-book, virtual tour or e-learning package” for the multimedia product
- Movie Maker and PowerPoint aren’t the most appropriate tools for the multimedia products
- Timeline animations should be created, where possible, as a primary asset
- The best quality work contained a good mix of primary and secondary assets, with assets being created for purpose where necessary
- Designs should be up-front designs, not work-in-progress

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
http://www.edexcel.com/iwant to/Pages/grade-boundaries.aspx

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