The specification for:

Level 2 Extended Certificate in IT User Skills in Open Systems and Enterprise (ITQ)

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ISBN

This is version 3.0 of the TLM handbook for school's IT qualifications eligible for league table points from 2017 onwards and first published in September 2014. Further printed copies can be obtained from Lulu.com or the pdf freely downloaded from www.tlm.org.uk.

The Qualifications and Credit Framework (QCF) was designed by the UK government's Qualifications and Curriculum Development Agency now replaced by Ofqual. The QCF is referenced to the European Qualifications Framework devised by the European Union. ITQ is the qualification framework based on the UK National Occupational Standards for IT Users developed by eskills and the Awarding Organisation Forum that is made up of all the Ofqual accredited organisations that offer IT User qualifications.

The assessment model for the qualifications presented in this publication was designed by TLM in consultation with all other awarding organisations that offer the ITQ. It was agreed that for delivery in schools, all awarding organisations will use the same structural model although each will set its own tests and use its own methods for assessing any coursework components.

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Contents

1. For those in a hurry!

Please read the rest of the book later as the details are important!

1.1	TLM's assessment model is common to most of its qualifications. It is based on competence-based assessment of coursework using a portfolio of evidence and supported by a free optional cloud-based evidence management system.
1.2	Learners must demonstrate competence against the assessment criteria from their day to day work and the teacher assessor must verify that they are competent in relation to the general level descriptor using indicative assessment criteria. TLM's external moderator will check the judgements and the quality of the evidence and provide feedback. This process is not graded, the intention is that it is a flexible way of checking basic practical competence in the subject at the qualification's framework level.
Procedures	
1.3	The first thing to do is to arrange assessor training with TLM. TLM trains at least one assessor as Principal Assessor who must accept responsibility for standards within the Centre. The Principal Assessor can train and appoint assessors within the Centre as long as they are competent to take on the work and are willing to sign an agreement on the web site to uphold standards.
1.4	TLM will provide initial training in the pedagogical model and using the supporting technologies to provide the evidence needed. The purpose is to get you started and then we provide on-going support to ensure you are confident and we can work as a professional partnership. We advise new Centres to do some coursework assessment early so that they can receive feedback and quickly become confident in doing routine coursework assessment. Our aim is to make this no more onerous than normal routine assessment that anyone would do as a normal part of the teaching job. This gives more time to focus on teaching and therefore to support raising attainment.

2. Introduction

The Level 2 IT qualifications are designed for a wide range of abilities and for people who require skills and competence in IT. They range from 1 unit with 6 Guided Learning Hours, to many units and 85 Guided Learning Hours. There is a wide range of units available for all skill levels and interests.

2.1 **Level 2 Extended Certificate**

The Level 2 Extended Certificate is a qualification designed for people who require skills and competence in IT. The qualification consists of a mandatory unit and optional units to make up the 25 credits required:

Mandatory

Unit 1 - Improving Productivity Using IT (4 credits).

Optional

Centres can choose a range of set optional units for their cohort or can work on a wider set of options so that learners can specialise in something that interests them.

There are 80 optional units to choose from.

3. Summary of Qualification Specification

3.1	**Level 2 Extended Certificate (Annexe A)**
	The Level 2 Extended Certificate is a qualification designed for people who require a wide range of skills in IT. The qualification consists of a mandatory unit Unit 1 - Improving Productivity Using IT (4 credits). The qualification consists of 25 credits so learners can make up the credits with optional units.
	Qualification Title: TLM Level 2 Extended Certificate in ICT Open Systems and Enterprise (ITQ) **Qualification Number:** 501/0435/4 **Qualification Level:** Level 2 **Total Credits:** 25 **Guided Learning Hours:** 170 **Total Qualification Time:** 250 **Assessment Methods:** Coursework, E-assessment, Portfolio of Evidence
	Assessment Learners must demonstrate competence against the assessment criteria from their day to day work and the teacher assessor must verify that they are competent in relation to the general level descriptor using indicative assessment criteria. TLM's external moderator will check the judgements and the quality of the evidence and provide feedback. This process is not graded, the intention is that it is a flexible way of checking basic practical competence in the subject at the qualification's framework level. **Mandatory Unit - Unit 1 - Improving Productivity Using IT (4 credits)**
3.5	**Assessment**
	The internally assessed, externally moderated coursework for all qualifications is pass/fail but by submitting the evidence for external moderation, feedback can be given to the teacher on areas to improve for resubmission. Evidence must be provided against the unit assessment criteria from practical tasks related to the learners' everyday work supported by IT. This could be from specialist ICT lessons, from use of ICT in other subjects or a combination. The way evidence is gathered is up to the assessor, the only requirement is that it clearly supports the judgements against the assessment criteria and the relevant learning outcomes. If on moderation the account manager finds gaps in evidence relating to a particular candidate, they will request more evidence before approving the award or the unit certificate. Assessors must then adjust their work to ensure all their learners are providing the appropriate level and breadth of evidence. We encourage early submission of at least some evidence so that assessors are confident from the feedback that what they are providing is sufficient. In this way we can maintain standards while supporting improved efficiency.

4. Qualification Content

= Mandatory Unit

Mandatory	Optional (for reference)
4 CREDITS	**21 CREDITS**
Unit 1 Improving Productivity (4 credits)	**Unit 2** Website Software (4 credits)
	Unit 3 Using Collaborative Technologies (4 credits)
	Unit 4 IT Security for Users (2 credits)
	Unit 7 Word Processing Software (4 credits)
	Unit 10 Presentation Software (4 credits)
	Unit 19 IT User Fundamentals (3 credits)

Additional units and guidance can be found here:

https://tlm.org.uk/getcriteria/?certid=85

5. Transferable Skills

5.1 Key Subject Aims

The over-arching aim is to enable learners to support their learning in all subjects using IT tools that are freely and legally available from the internet. Subordinate aims include:

- Developing the skills needed for employment.
- Gaining practical experience and competence with contemporary technologies including programming where appropriate.
- Increasing the capacity to transfer knowledge and skills between contexts.
- Developing practical skills in creativity and problem solving.
- Developing an understanding of the social and commercial impact of IT.
- Developing an understanding of the legal, social, economic, ethical and environmental issues raised by IT.
- Developing safe, secure and responsible practice when using IT including reducing risk.
- Developing the skills to work collaboratively with IT.
- Developing skills in critical evaluation and feedback.

5.2 Knowledge and Understanding

The following knowledge and understanding will be required to support learning for the qualification.

- Demonstrate knowledge and understanding of audiences at which work is targeted.
- Understand the purpose in common applications and/or applications they have used.
- Demonstrate knowledge and understanding of strengths and weaknesses in the way information is presented.
- Demonstrate knowledge and understanding of intellectual property.
- Know common file types and the implications of open and proprietary standards.
- Understand information flow starting with input of information, to processing and output.
- Understand the costs associated with different applications including direct and indirect costs.
- Have the confidence to deal with the unfamiliar such as the code in a computer program and work out what to do.
- Understand the principles of ordered lists of instructions underpinning algorithms.
- Understand abstraction as picking out common features of objects in order to simplify. e.g. A common structure for a template to input information into different systems.
- Understand the benefits of target setting for IT projects.
- Know specific characteristics of software in order to make choices of tools.
- Demonstrate a practical understanding and respect for acceptable use policies.

5.3 Skills

Opportunities are provided to support the following skills, the great majority of which will be assessed directly.

- Select, use and integrate IT tools and techniques to meet needs.
- Find, select and evaluate information for its relevance, value, accuracy and plausibility.
- Manipulate and process data and other information, sequence instructions, model situations and explore ideas.
- Transfer competence in a familiar context to an unfamiliar context.
- Communicate data and information in a form fit for purpose and audience.
- Adopt safe, secure and responsible practice when using IT.
- Develop appropriate and effective IT-based solutions in a range of contexts including computer programming solutions.
- Self and peer assess to gauge the effectiveness of their own learning.
- Think creatively, logically and critically evaluate their own and others' use of digital technologies.

6. Support

	Guidance and Assistance
6.1	There is further guidance for coursework assessment on the TLM web site. All centres have an assigned Account Manager who will be pleased to help at any time. Our aim is to give professional assessors, most of whom are qualified teachers, the confidence to make judgements with a minimum of bureaucracy so that they can focus their time on maintaining their professional knowledge, skills and supporting learning through effective teaching rather than “chasing paper”. There is often a confusion between bureaucracy and rigour, since unnecessarily complex bureaucracy can actually detract from rigour by obscuring the importance of the outcomes.
6.2	**Web sites** - TLM provides support through cloud-based systems. Providing assessment grades and the management of certification through the Markbook Site is mandatory and all assessors are provided with training in its use. It is simply a matter of recording learner competence against the unit criteria as the evidence is collected and claiming a certificate on behalf of the learner when a unit has been fully assessed.
6.3	The **community learning site** provides free optional facilities for learners to submit their evidence on-line, linking it to the assessment criteria across single or multiple units. The assessor can accept or reject this evidence and comment on it providing a full audit trail for evidence. Moderator/verifiers can get immediate access to this evidence and so it is potentially a lot more efficient than alternative methods. No paper, no e-mails with file attachments necessary. There are facilities for progress tracking that can be based on criteria and/or units. The system can be linked as an extension to any standards compliant VLE/e-portfolio system for centres that are already committed to a specific VLE product. Training can be provided, and free support is available from your Account Manager. The aim is to eliminate all paper-based bureaucracy, all screen-shots and referencing that draws time away from teaching.
6.4	**Telephone** and e-mail support are available to all Centres. There is a general convention of firstname.secondname@tlm.org.uk for e-mail addresses. It is usually best to e-mail your account manager in the first instance. Google hangouts can be arranged for video conferencing support.

7. Registration & Procedures

	Registration
7.1	TLM's subscription model enables schools to enter learners at times convenient to them. There are no late entry fees and no additional fees should a learner fail to produce evidence at a level but can meet the criteria at a lower level. This can reduce costs to the school when compared to GCSEs and significantly more than this when compared to some GCSE alternatives. There are no fees for replacement certificates or verification of certificates because all certificates can be directly authenticated against TLM's secure database. For details of current subscription costs please contact us or refer to the web site.
	Internal standardisation
7.2	The Principal Assessor has the ultimate responsibility for consistency in assessment standards within a centre. All assessors have signed a contract agreeing to uphold standards and should therefore co-operate with the Principal Assessor and Account Manager at TLM to ensure that standards across the centre are consistent. It is advisable to send work samples to TLM early to check that evidence is at the right standard so that there is time to make any adjustments necessary to the course and learner expectations. TLM will generally check a higher quantity of work from new assessors and feedback to ensure that they are confident to make appropriate judgements over time. This reduces risk and improves efficiency in the longer term.
	Authentication
7.3	All assessors must take reasonable steps to ensure that any coursework evidence submitted by candidates is a true reflection of the candidates' competence. This is in keeping with the assessor undertaking to uphold and maintain standards in the contract with TLM.
7.4	Certificates can be authenticated directly on-line using the certificate number or by scanning the QR code on the certificate. There is no charge and it makes it more likely that certificates will be checked and that in turn improves security. Certificate forgeries are a significant problem when authentication is not simple and straightforward because convincing forgeries are easy to achieve with recent technologies and will get easier as time goes on.

8. Other Considerations

	Access arrangements and special requirements
8.1	All TLM's qualifications are intended to be accessible, as widely as possible. There is an extensive policy documented on the web site at https://tlm.org.uk/policy-download-centre/ Centres should contact TLM if they have any questions related to accessibility issues.
	Language
8.2	The language for provision of this qualification is English only. This will only change if we have a significant demand in another language that is sufficient to cover the additional costs involved.
	Malpractice
8.3	TLM has comprehensive policies and procedures for dealing with malpractice. These are documented with links on the web site at https://tlm.org.uk/policy-download-centre/ Assessors should be familiar with these policies and make them clear to candidates. Assessors should inform their account manager if they suspect any instance of malpractice that could have a material effect on the outcome of any assessments, either for themselves or colleagues. This is part of the upholding of standards that is part of the contract with TLM.
	Equality of opportunity
8.4	TLM promotes equality of opportunity through policies and procedures. These are again documented in detail on the web site at https://tlm.org.uk/policy-download-centre/
	Resources, Support and Training
8.5	A clear goal is to enable learners to support all their IT user needs using resources freely and legally available from the internet. This is related directly to national policies for inclusion and equality of opportunity. The reality is that there is so much user dependence on proprietary applications that we can only support the transition to free and open resources through education and common sense.
8.6	TLM does not require centres to use Free and Open Source applications but it certainly encourages them to do so. Most of the key software applications needed to support any of the assessed units are available freely from the web including office suites, graphics and sound editing. As a nation we could save hundreds of millions if not billions of pounds in software licensing fees by providing users with the skills, knowledge and confidence to migrate to free and open source applications. You Tube, OpenClipart.org, Wikipedia and many other sites provide free content that supports learning and the number and range of such sites is increasing.

Annexe A

Level 2 Extended Certificate - Unit assessment - coursework guidance

The **Level 2 learner** has knowledge and understanding of facts, procedures and ideas in an area of study or field of work to complete well-defined tasks and address straightforward problems. Holder can interpret relevant information and ideas. Holder is aware of a range of information that is relevant to the area of study or work. AND/OR Holder can select and use relevant cognitive and practical skills to complete well-defined, generally routine tasks and address straightforward problems. Holder can identify how effective actions have been. Holder can identify, gather and use relevant information to inform actions.	**Moderation/verification:** The assessor should keep a record of assessment judgements made for each candidate and make notes of any significant issues for any candidate. They must be prepared to enter into dialogue with their Account Manager and provide their assessment records to the Account Manager through the on-line mark book. They should be prepared to provide evidence as a basis for their judgements should it be required by the Principal Assessor or their Account Manager/external moderator. Before authorising certification, the Account Manager must be satisfied that the assessor's judgements are sound.

General Information

The Level 2 qualification has the following characteristics for learners:

- Achievement at QCF level 2 (EQF Level 3) reflects the ability to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straightforward problems. It includes taking responsibility for completing tasks and procedures and exercising autonomy and judgement subject to overall direction or guidance.
- Use understanding of facts, procedures and ideas to complete well-defined tasks and address straightforward problems. Interpret relevant information and ideas. Be aware of the types of information that are relevant to the area of study or work.
- Complete well-defined, generally routine tasks and address straightforward problems. Select and use relevant skills and procedures. Identify, gather and use relevant information to inform actions. Identify how effective actions have been.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed.
- The criteria are designed to provide opportunities to promote numeracy, literacy and social skills as well as ICT capability and are compatible with the UK National Curriculum programmes of study as well as the regulated qualifications framework. This provides opportunities to satisfy both needs concurrently.
- The specification for the Level 2 extended certificate provides an outcome framework for assessment and is not intended to dictate any particular context for learning and so can be used with young children or adults and be applied to a wide range of existing courses.

Requirements

- Standards must be confirmed by a trained Level 2 Assessor
- Assessors must as a minimum record assessment judgement as entries in the on-line mark book on the TLM certification site.
- It is expected that there will be routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work. Samples, including related plans and schemes of work should be available at the annual visit and/or by video conference.
- Different approaches to learning will be required in order to match differing needs, for example, the needs of children will be different from the needs of adults with learning disabilities.
- When the candidate demonstrates secure capability against each of the criteria in the unit, they are entitled to a certificate for passing the unit and the overall award.
- We expect at least 170 hours of guided study to be under-taken for the certificate for complete beginners generally new to formal education, but discretion can be used to take account of prior learning where this is sensible in individual cases. In terms of making the certificate, what matters is outcomes. Can the candidate securely meet the criteria?

Certificates must be printed on TLM template paper available from The Learning Machine Ltd for which there is a charge of 50p per template.

The Mandatory Unit - Level 2, Unit 1 - Improving Productivity Using IT (4 credits)

1. Plan, select and use appropriate IT systems and software to meet needs	**2. Review and adapt the ongoing use of IT tools and systems to make sure that activities are successful**	**3. Develop and test solutions to improve the ongoing use of IT tools and systems**
1.1 I can describe the purpose for using IT	**2.1** I can review the on-going use of IT tools and techniques and change the approach as needed	**3.1** I can review the benefits and drawbacks of IT tools and systems used in terms of productivity and efficiency
1.2 I can describe the methods, skills and resources required to complete tasks successfully	**2.2** I can describe whether the IT tools selected were appropriate for the task and purpose	**3.2** I can describe ways to improve productivity and efficiency
1.3 I can plan how to carry out tasks using IT to achieve the required purpose and outcome	**2.3** I can assess the strengths and weaknesses in my final work	**3.3** I can develop solutions to improve my own productivity in using IT
1.4 I can describe factors that might affect the task	**2.4** I can describe ways to make further improvements to my work	**3.4** I can test solutions to check they work as intended
1.5 I can select and use IT systems and software applications to complete planned tasks and produce effective results	**2.5** I can review outcomes to make sure they match requirements and are fit for purpose	
1.6 I can describe how the purpose and outcomes have been met by the chosen IT systems and software applications		
1.7 I can describe any legal or local guidelines or constraints that apply to the task or activity		

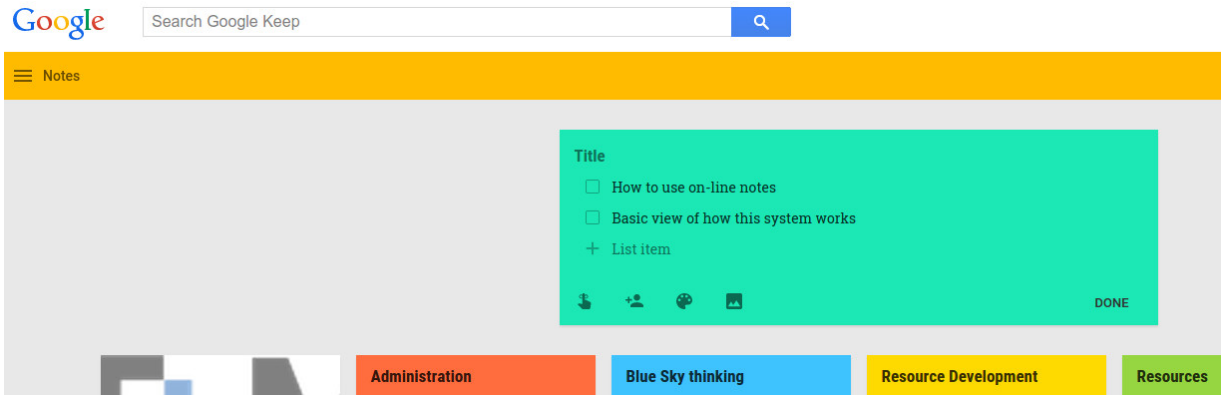
Assessment Method

Assessors can score each of the criteria L, S or H. N indicates no evidence and is the default starting point. L indicates some capability, but some help still required. S indicates that the candidate can match the criterion to its required specification. H indicates performance that goes beyond the expected in at least some aspects. Candidates are required to achieve at least S on all the criteria to achieve the full award.

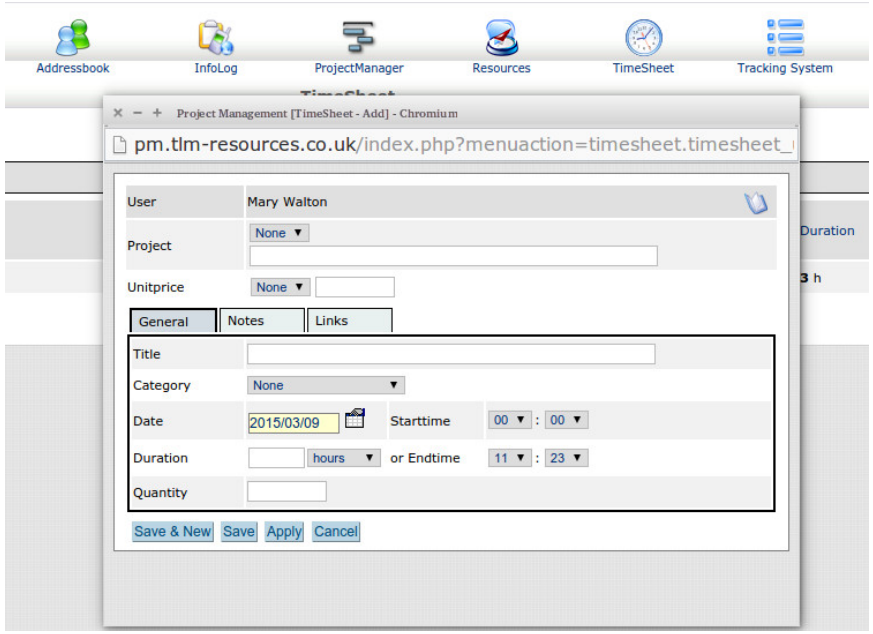
Expansion of the assessment criteria

Criteria	Additional Information and Guidance
1.1 I can describe the purpose of using IT in my work Candidates should be able to describe the purpose of their work and why using IT adds value to it in some way or ways. **Evidence:** will be provided directly from the presentation of work in web pages that has clear purpose and describes the purpose of the work.	• Candidates might describe the audience at which they are targeting their work and any aspects of the work that makes it particularly suitable for the audience e.g. "I used a word processing package to produce a series of documents for a local charity to use. To make the documents more attractive and personal to the company, I used a graphics package to make their custom logo. This graphic could be used on multiple documents, including web pages, as I made it a specific file format that can be scaled, exported and imported easily. I also created a spreadsheet so that they could better track their finances and incomes/expenses. Finally, I used a presentation package to show the charity my ideas and explain why I made the documents and logos the way that I did." Alternatively, "I used a public web page to collaborate with my friends in producing an information page about the local environment because it enabled us to work together effectively. It also made it easy for other people to contribute and made the results easy to link to other similar sites". They should be able to describe the key characteristics of writing formally to present part of a portfolio as opposed to the style used for chat and instant messaging of friends. The candidate will show evidence of understanding relevance in relation to purpose. Information that is irrelevant to a task will not support its purpose and inaccurate or biased information could be against the purpose. The main difference between Silver and Gold is that in Gold, description needs to be explicit, whereas in Silver it is enough to identify purpose e.g. from a list of options or other supporting structures. Their documented writings, blogs and/or files should contain descriptions in keeping with the guidance here.
1.2 I can describe the methods, skills and resources needed to complete my tasks successfully Candidates should be able to systematically analyse a task and match needs to resources. They should be able to describe the methods, skills and resources they need in some detail. **Evidence**: will be provided directly from the presentation of work in web pages that has clear purpose and describes the methods skills and resources relevant to successful completion.	• For example, as a method of presenting information to a general audience, using web pages is often a better choice than desktop presentation software. In a web page, the information is permanently and immediately available to the intended wide audience and this information can be linked to related information in other pages. These web pages can also be web page resources such as cloud based office files. They might need skills related to e.g. preparing images for use on-line so they are suitable sizes and load quickly on low bandwidth connections. They can describe issues related to copyright which are Personal Learning and Thinking Skills (PLTS) and accessibility if they intend others to use the information they prepare. The resources needed could include time, software, hardware or new learning and expertise. Again evidence of description will differentiate from Level 1. • Every successful project, especially using potentially complex and expensive aspects such as IT, needs to be properly planned and resourced. It is no good getting ready to deliver something to a customer and then discovering that a widget that makes it all work in the learner's environment is missing in the clients. Equally, it is good to set out some sort of method before you begin. You don’t always need to be linear and follow a set route. In some cases, this may not be effective. The method might require you to downgrade a project. For example, many civil service based organisations still use very old and unsupported versions of web browsers such as IE 6, or they might use a very specific version of office software which is no longer possible to purchase. If you start out your product with modern designs and scripting elements, before checking what web access tools they have, you will waste a lot of time designing something that you think is great, but simply will not work. In this instance, the method should be to research what is practical before moving on to what is possible. The method here would be to gather all of the details about the client’s system, then work on what can be designed given these limitations. Similarly, you may be living in a city or town with excellent Internet connectivity speeds. If you don’t check with a customer what their own access speeds are like, then you will have problems delivering a media rich solution that will not work on a slow Internet.

	• In terms of describing the skills, a great many IT solutions fall down because of the huge amount of change they entail. It is great introducing a new system, but if the staff are not very confident users of IT, you will have to build in huge amounts of time and money for training, and this may still not be enough. In most instances, where possible, it is good to work on the idea of KISS. The more basic and workable your solution is, the better. There are obviously exceptions and if you are designing something for sophisticated users, then you will need to make it fit that need and skill set. • The resources you use need to be described in as much detail as makes it understandable to someone reading your work that does not have your skilled knowledge of IT. If something seems to be obvious to you, it might not be obvious to someone else, so it is always good to check with different people that it all makes sense as you go along. Did you survey possible users and find out how much they understand the resources, could you do this to have a clearer guide. As with the skills, implementing resources which are complex and time-consuming, mainly because you think they are good, may not be the best solution and therefore may not lead to your required success. • On that note, it is not a direct requirement of this criterion, but you do need to address the aspect of success. How do you know it was successful. If there are 10 users and 5 of them say it is OK, is that a success? Set yourself some measures. In terms of the examination, many IT projects use SMART methods on projects. Use these and work towards them on your project in terms of method, skills and resources to ensure overall success.
1.3 I can plan how to carry out tasks using IT to achieve the required purpose and outcome Candidates should be able to provide clear and structured plans for tasks and at least one project of 20 or more hours. **Evidence:** A documented plan that supports a project presented in a digital format e.g. a web page, document file or IT planning software.	• Candidates should have planned a project of some complexity scoping the information flow. For example, designing a structure for an e-portfolio with a title page linking to subjects of interest, listing the information sources needed for input, the software tools they will use for processing information to include in their portfolio and the intended audience for their finished product. They should provide evidence that they have considered costs and where relevant the file formats generated by the tools in order to make information widely accessible. Will their work force other people to have to buy software in order to access it? Planning should consider such issues to avoid problems later on when the project has been completed (PLTS) • Plans should typically be based on an aim, some specific objectives and/or SMART (Specific Measurable, Attainable, Relevant and Time-limited) targets. Candidates should realise the importance of objectives and targets that can be rationally evaluated rather than vague statements of aim. An example in the context of a work portfolio might be to provide 3 screen sized pages for 3 subjects by 31st July. Resources required are 20 hours of time and access to the Drupal Content Management System. Plans should include concise descriptions of the methods and actions needed for success and these can relate directly to the range of assessment criteria in this section. • The main focus here is on the planning of the IT task or project, though obviously it also has to address the ending part here and achieve some outcomes or stated purposes. You could use some tool in order to aide their planning. This could be something basic like the Google Keep application:

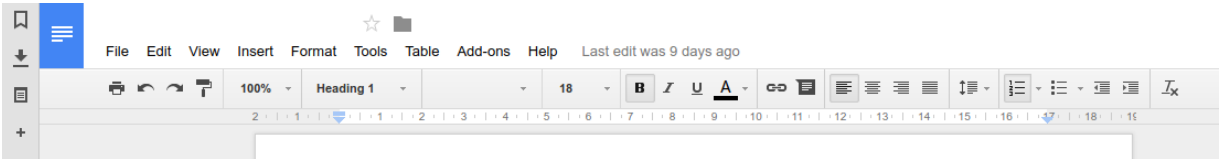


The learners can colour code the different planning elements. Otherwise, you could set up some cloud based CRM system which has some time planning elements built in, such as eGroupware or similar.



The above is a system set up for TLM users with some pre-set login for users. The system has timesheets and project tools which can output graphs and reports.

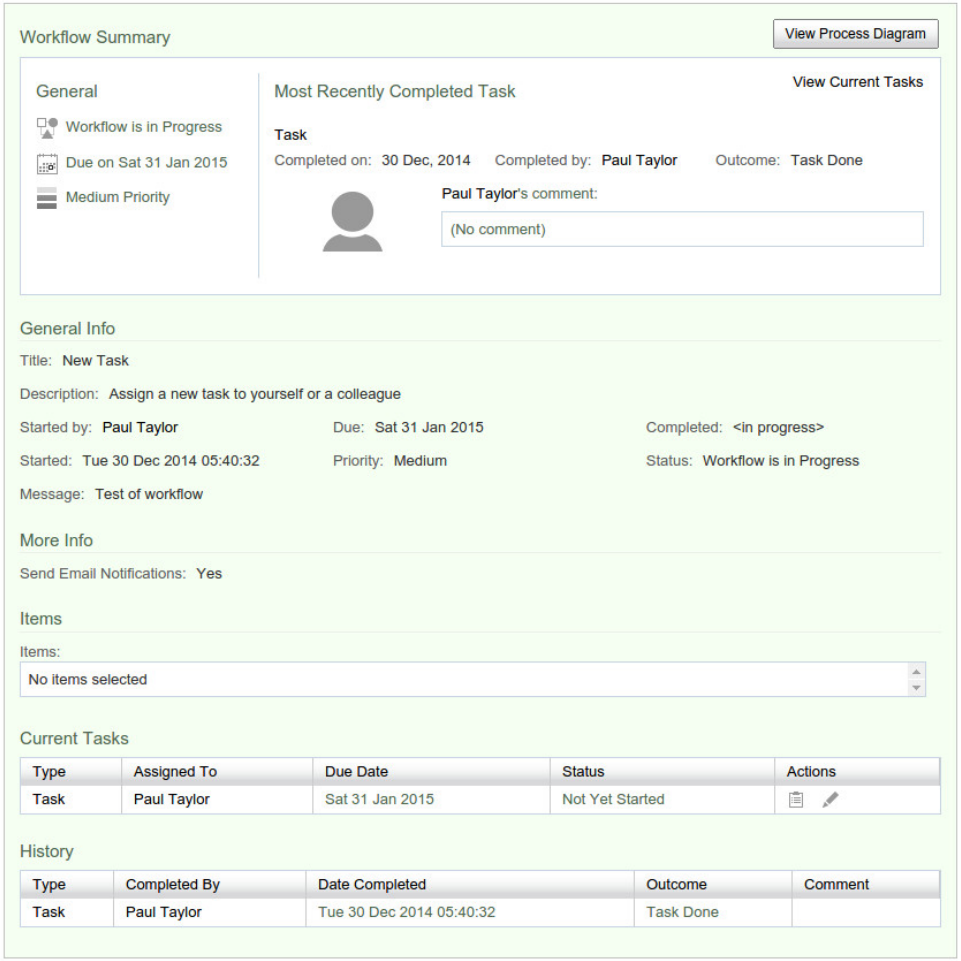
- It would be useful to set out some of the desired outcomes as targets. This will help reduce wasting time on things which seem quite good, but don't achieve anything that was set out in the initial plans. The same goes for the purpose. If the purpose is to make a more efficient

	system, then some of the outcomes should be quantitative, i.e. it will create a new document from a template in under 20 seconds. If it is more related to qualitative targets, then it could be something like 80% of the work force agreed that it was easier to use and the colour scheme was more relaxing.
1.4 I can describe factors that might affect the task Candidates should be able to describe a range of factors that could affect the way they carry out their tasks. **Evidence**: Evidence from content of their web pages describing these factors and considerations in their planning	• Have they considered the time the task is likely to take, any copyright issues in obtaining suitable resources, cost of resources and any e-safety and/or relevant security considerations? This is not intended to be an exhaustive list. The factors considered simply have to be credible and useful in the planning process. Again, being able to describe the factors and relate them to the task is a Level 2 characteristic.
1.5 I can select and use IT systems and software applications to complete planned tasks and produce effective results Candidates should have sufficient breadth of experience to make an informed choice about the IT systems and software to use. **Evidence**: Evidence from content of their web pages and day to day working files indicating effective results and appropriately selected supporting resources.	• Candidates should show evidence of making appropriate choices between different applications or systems in order to complete a project of some complexity. For example they might choose a vector drawing program to originate diagrams rather than use a raster (bitmap) graphics program because of the greater flexibility in handling and scaling shapes. They might choose open source applications for lower cost or ethical reasons. They might choose web based systems for ease of linking to other information sources or sharing resources with others. A legitimate reason for choosing a particular system could be that it is the only one available, but candidates should be encouraged to question why this is the case given the growing list of freely accessible tools and resources on-line. A user guide describing the strengths and weaknesses of two different applications might be useful, for example, comparing different office software applications. • The following is a cloud based package and a desktop based one. You can see the additional options with the desk based package, but are all the features necessary for the task? Cloud Based  Desktop Based 
1.6 I can describe how the purpose and outcomes have been met by the chosen IT systems and tools	• They can also point out weaknesses in the tools and alternatives that they might have adopted with hindsight taking account of feedback from their peers and others. Assessors can give specific headings and general guidance to make it clear that an evaluation must target specific outcomes and their strengths and weaknesses and not just result in general opinions such as "I

Candidates should describe how the tools and systems they chose have been successful in supporting their project outcome as part of an evaluation. **Evidence**: Evidence from documented evaluations	think I was successful". Descriptions should reflect Level 2 functional skills in English and the ability to describe how... is the key difference between Level 1 and Level 2 work. Note that the evaluation could be written or verbal but if verbal should be recorded e.g. as a podcast or video.
1.7 I can describe any legal or local guidelines or constraints that apply to the task or activity Candidates should demonstrate that they can describe the legal and local guidelines and constraints that apply to the activity. These should be relatively straightforward summaries of say the acceptable use policy and copyright as a minimum. **Evidence**: Evidence from documented descriptions	• Candidates should demonstrate that they abide by any local acceptable use policy and that they can describe the policy in general terms. They should make a declaration that they license their work for free use and that it is their own work and any sources of information are referenced to their owner. They should not use copyright tools or information without first gaining permission (or have it provided directly in the license). Any further local constraints can be included in this work but some description of the AUP and copyright should be present. There is no need to have a detailed understanding of very complex terms and conditions. At this stage an overview of the main purpose and key requirements is sufficient, but it is a describe element so there is a need for at least a paragraph of their own writing.
2.1 I can review the on-going use of IT tools and techniques and change the approach as needed Candidates should be able to provide evidence of reviewing their work with specific focus on the IT tools and techniques they have used. They should describe at least three occasions where they have changed techniques, tools or approach as a result of evaluating their work in a project or projects. **Evidence**: Written recorded evidence in web pages or day to day document files describing their work	• One way to approach this would be for the candidate to maintain a Blog as a diary supporting their work. They can use the TLM learner site for this purpose or their own resources as long as evidence is accessible to the Account Manager for moderation and verification. Putting together their portfolio or providing a digital resource or service to the community are suitable activities that can be reviewed and documented in a Blog.
2.2 I can describe whether the IT tools selected were appropriate for the task and purpose Evaluation should include a description of the IT tools and their fitness for purpose. This can be organised as an analysis of strengths and weaknesses. **Evidence**: Evidence from documented description conforming to the criterion and guidance	• Candidates should be able to make clear judgements about the IT tools available to them supported by evidence. They should consider not only the "brand" but the functionality and cost including indirect costs such as dealing with viruses, upgrades and administering licenses. File formats generated by applications should be considered in relation to lock-in to a particular product that could reduce future choice. Assessors should provide guidance to get candidates to refer to specifics rather than general statements such as "I think the tools were appropriate" without justification. Listing strengths and weaknesses will help avoid bland generalisations. • For example, using a word processing tool the candidates could say that a clear strength of the application was that they could customise the interface so that only the icons they use most are visible. That way, it is easy to find the ones they want and not be confused and distracted by ones they never use. A weakness might be that the applications are generally made by American companies and the spelling default to US English. If the user is not aware of this and does not set this to UK English their auto-correction of spelling will be adding words that are incorrect. Similarly, a cloud based word processor is good because it can be accessed anywhere, but a weakness is that it does not have all of the formatting tools of a desktop based version and

	some of the formatting added by a desktop application are lost when uploaded to the cloud based system. • The characteristic of Level 2 as opposed to Level 1 is the ability to describe specific aspects of the tools used and to make rational judgements about their properties. For example, the tool did or did not provide the facility to save a document in an open file format, the tools are expensive so only available to me in the place of work, the tools required some time to learn/were easy to learn. Some operations were slow and limited the speed I could work, I only used a very small number of the available features.
2.3 I can assess the strengths and weaknesses in my final work Candidates should provide evidence that they have analysed end products of their work and stated associated strengths and weaknesses taking into account feedback and views of other people. **Evidence**: Evidence from documented descriptions conforming to the criterion and guidance	• Strengths and weaknesses should relate to some of the following: format, layout, accuracy, structure, style, quality, clarity for audience. Getting candidates into the habit of using the strengths and weaknesses method and making an overall comment of judgement about the success of their work is recommended. They should get peers/intended audience to help them review and assess their outcomes. • This is always a hard criterion, regardless of how experienced the person is, since no-one really likes to say what they were good or bad at. It is a very important aspect of the process however. It helps to use specific areas to focus on. For example, using quantitative and qualitative measures helps. If these are determined as part of the planning in 1.3, then it makes it more straight-forward. • A quantitative measure is, as the name implies, based on a quantity. If your design is making a new template for an office application, how quickly can it load, how quickly can it be created or saved. A quantitative measure might be in collecting data. The existing paper based system, for example, collected a total of 100 questionnaires and each one took 30 minutes to fill out, my web based solution collected 1,000 questionnaires and each one took 20 minutes. Both of these examples make it easy to measure strengths and weaknesses. For example, I expected my template to be ready to use and be completed by the user in 15 minutes, but it took 25 minutes. That gives a concrete problem to look at. Why is it taking so much longer than expected. What is the weakness here. Equally, it took 3 minutes less than I thought, so that is a strength that can be discussed. What made it work so much faster than expected. • A qualitative measure relates, again in the name, to the quality. This is a harder one as it is subjective. What I think of as a good quality operating system may not agree with what you think. However, it should still be possible to assess or measure some aspects of this quality. If you are designing a website, then most people, you hope, would find it attractive and appealing to use (a quality). If you carry out a survey once it is running and 80% say they don’t like how it looks, then this is a weakness in the design that needs to be changed. Equally, if you have designed a database for a local company to assist in their customer relationships, a strength might be that users report that they are so much happier entering data as the design looks so good that they deal with customers more quickly. The customers will therefore recommend the company to friends and family. This is clearly a strength in the quality of your design. This can then be assessed. What made people so much happier to use the system? What aspect of the design was so strong to give this feeling?
2.4 I can describe ways to make further improvements to my work Candidates should use the evidence from their evaluations to inform ways in which future work can be improved. **Evidence**: Evidence from documented descriptions conforming to the criterion and guidance	• Analysis of strengths and weaknesses as the work progresses forms the foundation for this assessment. Include examples from correcting mistakes and errors, improving connectivity or interoperability by adopting open standards, learning new technologies, adopting more efficient or effective methods such as preparing graphics for display so that they look reasonable and download quickly. Where conflicts arise e.g. one aspect causes both positive and negative effects, candidates should be encouraged to discuss these and not simply take an accepted view on face value. There is a lot of disagreement about the relative merits of particular tools and methods. At this stage the main emphasis is on making judgements and at least attempting to justify them even if the candidate's level of knowledge is a limiting factor. One possible issue

	might be that what the candidate finds easy to use on a software application is very difficult for an end-user/client. Therefore, an alternative will need to be found and tested as it is the client's needs that are being catered for.
2.5 I can review outcomes to make sure they match requirements and are fit for purpose Based on describing strengths and weaknesses of outcomes in relation to their planned intentions, candidates should comment on how well they meet the requirements defined in their plans. **Evidence**: Evidence from third party feedback, analysis of strengths and weaknesses and any other relevant documented descriptions conforming to the criterion and guidance	• Candidates should show evidence that they can evaluate completed projects by documenting them appropriately, establishing clear links between planning, execution, and evaluation. The evaluation should start with the original aims or intentions, analyse strengths and weaknesses by comparing outcomes to planned intentions. The review should include the views of peers and/ or the intended audience for their work. Assessors can provide guidance in the form of headings and ensure that review of outcomes provides the basis of describing ways for making improvements but candidates should provide descriptions of their judgements in their documentation accessible to the Account Manager. • This criterion is a reflective one where the students can write about their experience in relation to the design and its outcomes. They will have set some basic targets and objectives when they started the project or IT implementation, and now they can look at how close they were to meeting them. They do not have to meet everything perfectly and there is more learning in finding problems and planning to fix them at as later date than getting it right first time. The other key term here is “fit for purpose”. This term is much used in the popular press these days and students should be familiar with the meaning. In their own project, could they say that it was a competent job that solved a number of clear problems. If the target audience can’t really use it as planned, it is not fit for the purpose for which it was designed. The outcomes will tie in to this as something like a template for gathering data will need to gather the data expected. If it does not do this, or gathers data that is not useful, then this could be an example of being not fit for purpose.
3.1 I can review the benefits and drawbacks of IT tools and systems used in terms of productivity and efficiency The candidate should be able to identify how IT tools might make achieving ICT based solutions more efficient to increase productivity for themselves and others. **Evidence**: Evidence of review through documentation of evaluation in web pages and/or day to day files.	• For example, sending e-mail can be more efficient than talking to someone when all that is required is a specific piece of information. Discussing the details of how to use a new software tool by e-mail or text messaging is likely to be a lot less efficient than a spoken conversation and so review should include discriminating use of ICT. Other factors such as the lack of expression and remoteness of technology can lead to "flame wars" that would reduce efficiency. • Information entered directly into a web page can be much more efficient than making a word processed file and attaching it to the page. Firstly there is no need for word processing software, secondly the information is immediately available to users without having to download a file and having software for opening and viewing it. Social networking can be very powerful, but it can also be a major distraction to the focus required for efficient working. • They might have discussed this in forums or verbally to form their views and so assessors might provide a witness statement to acknowledge this. • What are the benefits of the solutions you propose? What kinds of measures can you use to back up your claims. If your project is to create a template for a small local company to make them generate letters to customers more efficiently, have you looked at all possibilities. If the document requires several people to look at it before it is released, this means the document is printed and passed around, or emailed back and forth. This takes time and effort and is inefficient. How much better would it be to use a cloud based collaborative system so that all these people can work on the document and sign it off collectively. Some systems even have built in workflow systems with different sign off rights such as Alfresco.



- The above image is from Alfresco, an open source CMS (Content Management System) which allows groups to collaborate on documents and for different people to make changes and send it back or pass it forward. The whole process is tracked so that everyone can see how the document progressed and any hold ups.

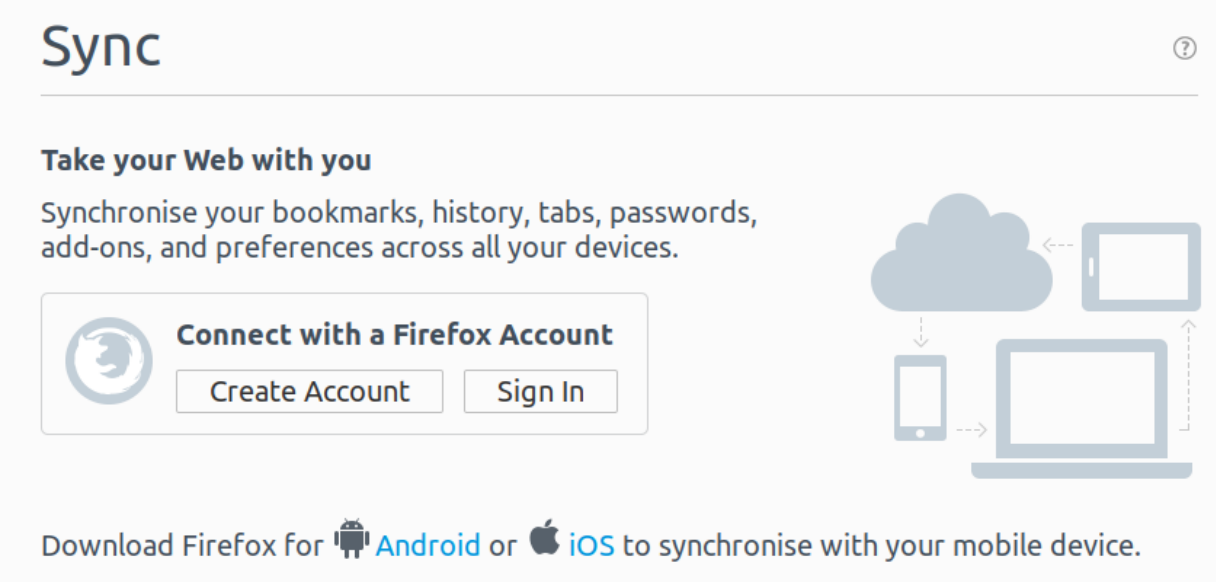
  In some cases, it may be legitimate to say that IT does not help the process and causes too many distractions. If IT is used poorly, it is as bad as any other methods.

3.2 I can describe ways to improve productivity and efficiency

The candidate should provide evidence that they can describe examples of working methods that improve efficiency.

Evidence: Evidence of descriptions through documentation in

- Examples might be to use a typing tutor to improve keyboard efficiency, use of keyboard short cuts, recording a macro to automate a process or getting a web browser to save often used details like name and address. They might describe how they organise their folders so the most often needed files are most readily available or change user interface characteristics. They might use bookmarking for files - note for machines with multiple users, bookmarking web sites are a clear advantage. They might use on-line collaborative tools instead of desktop tools or they might use shared resources such as open clip art and Wikipedia on the "Give a brick get a

web pages and/or day to day files.	house" principle. Many browsers now have the ability to synchronise browsing and other settings across computers and devices which increases efficiency. 
3.3 I can develop solutions to improve my own productivity in using IT The candidate should have adopted some of their own practical solutions for personal productivity as a result of exploring the ways that ICT can be used to communicate, collaborate and share ideas. **Evidence**: Evidence through documentation in web pages and/or day to day files of them changing the way they work in response to feedback, evaluation and review.	• They should have some clearly improved ways of working from regular use of keyboard short cuts, bookmarking useful sites, greater use of web pages instead of word processors to present and organise information. This should be witnessed by the assessor and/or supported by portfolio evidence. Candidates should be encouraged to discuss productivity with peers and share ideas about the most effective techniques, favourite short-cuts and working methods.
3.4 I can test solutions to check that they work as intended The candidate should routinely check their work to make sure they actually produce the outcome intended as their work progresses. **Evidence**: Evidence through documented evaluation.	• There should be few instances of bad formatting, spelling errors, or other obvious errors that could be eliminated by simple checks. Encourage groups to check and assess each others' work and to receive feedback graciously when others find errors. Fix errors directly or find out how to. • One final aspect of any IT work it to check that it does what it is supposed to. The best way for this is probably to devise a test plan and carry out the tests as methodically as possible. Building a basic table to store results also helps think about how to solve possible problems, as well as make the information easier to access, for example:

Number	Description	Expected Outcome	Actual Outcome	Actions to take
1	Shortcut key to paste highlighted words	Pastes the words with shortcut keys	Same as expected	No further action
2	Short-cut to reformats a section	Reformat a selected section	Reformatted other parts	Need more precision in selecting what needs to be formatted

Annexe B

Optional Units

The TLM Level 2 Extended Certificate has a requirement of 25 overall credits to pass. Unit 1 is a mandatory unit, but the following are a small sample of possible optional units to complete.

Centres can pick units themselves as long as they make a minimum of 25 credits overall.

The units can be chosen to have an overall focus, for example units that are about office productivity or more creative design, or they can be something to match local industry needs, for example focussing on managing data such as spreadsheets and databases.

More information an guidance on the 90 different units available can be found on the TLM website Unit Bank.
https://tlm.org.uk/getcriteria/?certid=85

2 Optional Units and their guidance are included below as reference to centres in relation to how much evidence is required from learners. One Unit is 2 credits and one is 3 credits. The mandatory Unit 1 is 4 credits. These should give an indication of what is required per unit to meet the 25 credit requirement.

NOTE: We advise centres to use the web based Unit Bank as the guidance here is regularly updated, whereas these specification documents are only updated once a year or if the qualification specification changes.

Sample Optional Unit - Level 2, Unit 4 – IT Security for Users (2 credits)

1. Select and use appropriate methods to minimise risk to IT systems and data
1.1 I can describe the security issues that may threaten system performance
1.2 I can apply a range of security precautions to protect IT systems and data
1.3 I can describe the threats to system and information security and integrity
1.4 I can keep information secure and manage personal access to information sources securely
1.5 I can describe ways to protect hardware, software and data and minimise security risk
1.6 I can apply guidelines and procedures for the secure use of IT
1.7 I can describe why it is important to backup data and how to do so securely
1.8 I can select and use effective backup procedures for systems and data
1.9 I can explain the steps that I take to make sure that my use of IT does not reduce my personal security

Assessment Method

Assessors can score each of the criteria L, S or H. N indicates no evidence and is the default starting point. L indicates some capability, but some help still required. S indicates that the candidate can match the criterion to its required specification. H indicates performance that goes beyond the expected in at least some aspects. Candidates are required to achieve at least S on all the criteria to achieve the full award.

Expansion of the assessment criteria

Criteria	Additional Information and Guidance
1.1 I can describe security issues that might threaten system Candidates should be able to describe common security issues that could affect the way their computer performs. Viruses, spyware and spam are the most common straightforward threats to performance. **Evidence**: Description in web pages, assessor observations.	• Main difference between Level 1 and Level 2 is the ability to describe some of the key issues at level 2. This could be making a simple risk assessment to describe issues and their importance, perhaps linked to the work on collaborative technologies. First of all, using an operating system that is the target of most malware is a consideration. Windows is by far the riskiest environment, especially older versions but they may not have any choice in its use. Virus checkers significantly affect performance when running too. Early versions of Windows allowed programs to install themselves without reference to the users and by far the vast majority of malware (viruses, spyware etc.) are targeted on Windows. Since a virus is a program, it will only run on a specific operating system (although in principal it is possible to devise cross-platform viruses in practice this does not seem to be a problem) Opening a file with a Windows virus on a Linux computer will do no damage. While later versions of Windows are much more secure, they are still targeted by vast numbers of malware applications, and these will infect them if inexperienced users do silly things! • Unsolicited e-mail (spam) and associated attachments could be intended to damage the system or applications software and SPAM reduces performance because it takes time to download and delete. They should be able to describe why they should not reply to spam and never install or open any file attachments from any source unless they are 100% sure that the attachment is useful and from a trusted source. They should be able to describe sources of virus infections such as web sites, USB keys and discs especially on computers running Windows with older versions far more susceptible than the more recent ones. Physical security of hardware is also important. If a memory module is taken from inside a computer the computer might still work if it still has some memory but performance will be affected. Stealing a personal identity might not affect system performance but it is likely to have a significant impact on the individual. • Many news articles show how dangerous lack of security can be. • Virus checkers for Linux are targeted on servers that provide information to Window's client machines. The virus checker then strips out the virus on the server before it reaches the client. For informed IT literate users, there is no practical virus problem for Linux or Apple computers that use variants of the Unix operating system design. For some reason, perhaps commercial interest, this disadvantage in using Windows never seems to get much discussion. • With most up to date operating systems, in order to install a program you have to enter the system password so unless you actually go ahead and install something you are not sure about it is not possible to accidentally install a virus. For this reason viruses are much less likely to proliferate and so there is little incentive for virus writers. Some people say the reason there is no practical virus issue with Unix based computers is that there are fewer of them and so virus writers target the big numbers. It is also true that on average the IT literacy of Unix users is probably higher than for the average Windows user. • If you can achieve what you need to achieve with a Linux based computer it is unnecessary to have any anti-virus software and so system performance is unlikely to be reduced by viruses or the software needed to check for them or other malware. There are massive commercial interests at stake here so be careful about sources of information. A vendor of a particular system is going to talk up the benefits and talk down the risks related to security for their system. Currently too few people are technically capable enough to give reliable advice even though many think they are. Improving the general technical knowledge of the population will reduce the risk to that population as a whole.

1.2 I can apply a range of security precautions to protect IT systems and data Candidates should show practical capability of a responsible attitude to security in their every day work with a degree of self-sufficiency. They should not be awarded this criterion if they do any of the following. Swap passwords with others, fail to keep their passwords secure, use ineffective passwords (e.g. the word "password" or a single key stroke), download or attempt to download information that is either against local policies or is not known to be secure. **Evidence**: Assessor observations.	• The first precaution to take is never to install anything from anything other than a trusted source. Always use a secure password. (single words that can be found in a dictionary are NOT secure passwords). Secure passwords can be memorable e.g. A*isBorn3 or 1NeverB# or 10%Interest. On Windows Systems install up to date anti-virus software and run regular checks. If connected to the internet check there is a firewall between the client machine and the wider internet. Back up data and ensure back ups are in a physically separate place from the source. Avoid displaying your personal details on-line. (PLTS)
1.3 I can describe the threats to information security and integrity Candidates should be able to describe the following threats: • Technologies with very widespread take up that are directly related to communications are very likely targets for people that want to breach security. A good example is Outlook address books which can use e-mail addresses in a sort of pyramid spam. Particular care needs to be taken when using such applications • The use of insecure passwords, sharing of passwords, storing username and passwords in public web browsers • Leaving computers logged in while unattended especially in public places • People who pretend to be trusted entities in order to get personal information from users. (Phishing) • Files can be dumped into your system to be activated later (Trojan Horses) • Providing personal information on public networks that could enable criminals personal access to individuals • **Evidence**: Description in web pages, assessor observations.	• It is relevant to link with the unit on collaborative technologies. Note that a lot of the technological solutions are in place and the human factor of inexperienced and under-educated users is probably more important than flaws in any particular technology. In general, the better the technology is understood the less likely the individual is to be a victim of technologically expert criminals. (PLTS).
1.4 I can keep information secure and manage personal access to information sources securely Candidates should demonstrate practical skills in keeping information secure and managing their personal information	• They can describe the particular care needed if entrusted to carrying sensitive information on discs, laptops and memory sticks. Such physical devices can be lost or misplaced. Candidates should be able to describe how security is a particular focus for identifying the benefits and limitations of using ICT. Being able to copy information quickly and easily is useful but also a potential security risk.

securely in their day to day work. **Evidence**: Assessor observations	
1.5 I can describe ways to protect hardware, software and data and minimise security risk Candidates should describe ways of protecting hardware, software and data from theft, damage or corruption. **Evidence**: From their web page descriptions.	• The descriptions in the web pages should include: - ensuring that there is a firewall in operation between their computer and the internet. - ensuring that passwords are in place and of reasonable strength - ensuring that data is backed up regularly - ensuring that hardware is in a secure place
1.6 I can apply guidelines and procedures for the secure use of IT Candidates should show that they have conformed to acceptable use policies and local guidelines for the secure use of IT. **Evidence**: Assessor observations	• This work can be linked to other units where there is a need to apply AUPs and local procedures. What matters is that the assessor judges the candidate to be competent to apply guidelines and procedures in the context of practical day to day work.
1.7 I can describe why it is important to backup data and how to do so securely The candidate should be able to describe why backups are important and the procedures they use to back up their personal data. If they are working on a network and their data is backed up for them, they should be able to describe the system and the principles of why it is used. **Evidence**: From descriptions in web pages.	• Most companies that do not have a secure data backup that they can use to rebuild a broken system will go out of business quickly. Candidates need to describe some of the implications of failing to understand how important data is. As we become more reliant on digital materials, for example not writing information down on paper, so we become dependent on our computer systems functioning properly at all times. In addition, many companies have assumed that keeping their data backups in the same server room was safe enough, only to discover that a fire at the facility destroyed both their live servers and their backups. Not using some type of security facilities and procedures will result in problems and some firm will employ deep encryption algorithms on their data to make sure that if they are to fall into unsafe hands, there is little value to anyone. All of these processes and procedures need to be explained with working examples where appropriate.
1.8 I select and use effective backup procedures for systems and data The candidate should be able to choose a back up strategy that is relevant to their particular circumstances and manage their information securely. e.g. it might be that the local network is backed up with tapes on a regular basis with the tapes taken off site. They can still backup important files to USB and have a system for naming different versions of files.	• There are different ways and means of carrying out backups and these will vary on the size of data and the nature of the data. Many systems offer either difference backups, just keeping what has changed since the last time, or incremental, adding the new data each time. Both of these have strengths and weaknesses and need to be understood before being deployed. At a personal level, candidates should be able to show that they have some processes in pace to protect their own data. They might use a cloud facility for their general data and perhaps an external USB drive for data that is important. Do they then have a copy of this? How many copies of copies is it reasonable to keep and maintain? What are the issues with keeping copies? If material is kept on CDs, for example, how long before these are no longer accessible?

Evidence: From descriptions in web pages and assessor observation of carrying out the descriptions in practical every day work.	
1.9 I can explain the steps that I take to make sure that my use of IT does not reduce my personal security The candidate should be able to explain that they understand how connected they are and what they can do to protect themselves from harm **Evidence**: Assessor observations and reflections in web pages and journals.	• Most candidates will use a range of online systems and services. Each of these will require personal details to be used. That means that they are tracked and logged at every step of their online journey. How do they make sure that this journey is safe? There are many changes in the way the Internet is being used, especially for criminal intent, and candidates should keep abreast of these developments.

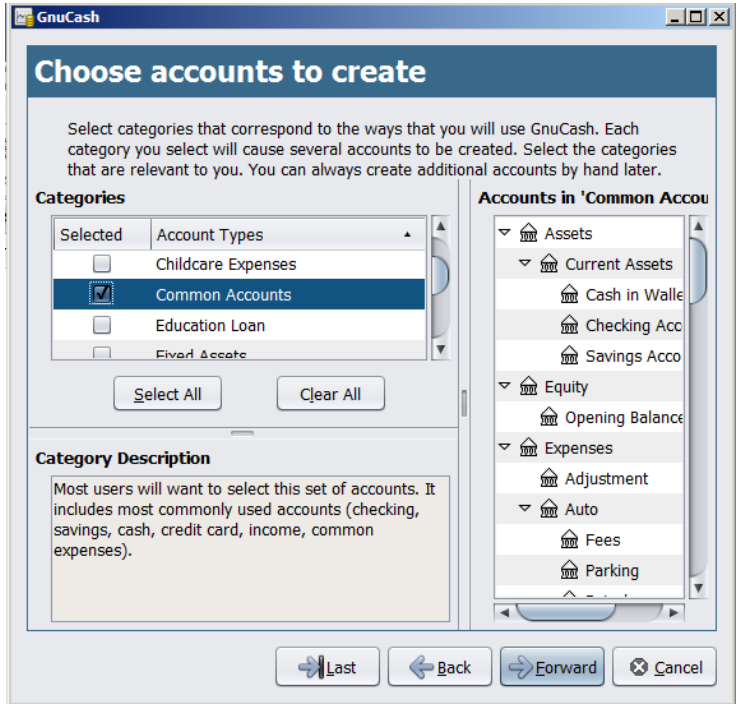
Sample Optional Unit - Level 2, Unit 32 - Computerised Accounting Software (3 credits)

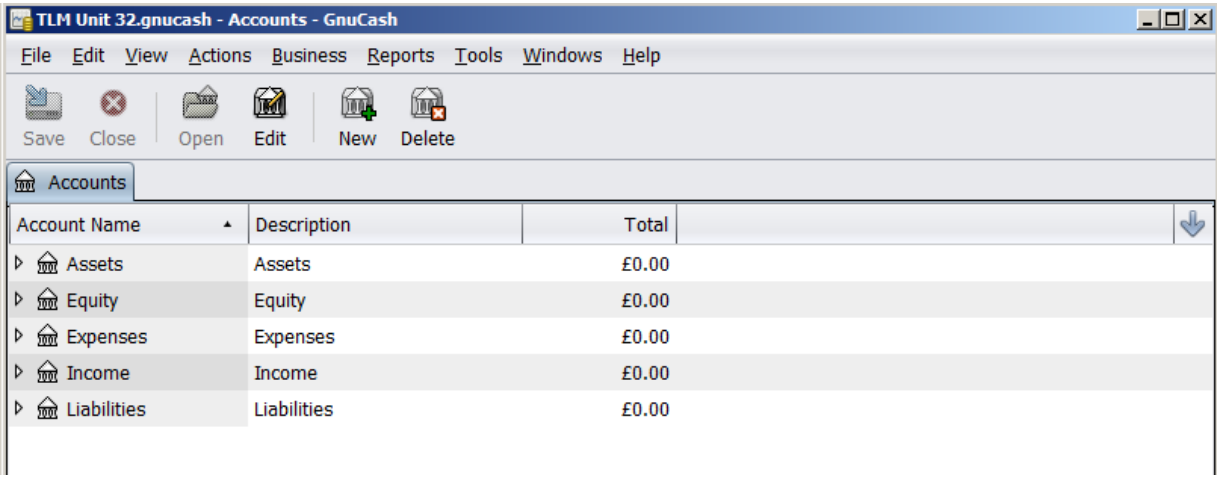
1. Access, enter and edit accounting information	2. Select and use tools and techniques to process business transactions	3. Produce accounting documents and summary reports to meet requirements
1.1 I can describe the sources and characteristics of accounting data	**2.1** I can select and use appropriate tools and techniques to enter and process transactions	**3.1** I can describe what information is required and how to present it
1.2 I can set up and create new accounting data records accurately to meet requirements	**2.2** I can review the transaction process and identify any errors	**3.2** I can prepare and generate accounting documents
1.3 I can locate and display accounting data records to meet requirements	**2.3** I can respond appropriately to any transactions errors and problems	**3.3** I can prepare and generate management reports as required
1.4 I can check data records meet needs using IT tools, making corrections as necessary	**2.4** I can select and use appropriate tools and techniques to process period end routines	**3.4** I can import and export data and link to other systems and software
1.5 I can respond appropriately to data entry error messages		
1.6 I can describe the risks to data security and procedures used for data protection		
1.7 I can apply local and/or legal guidelines for the storage and use of data		

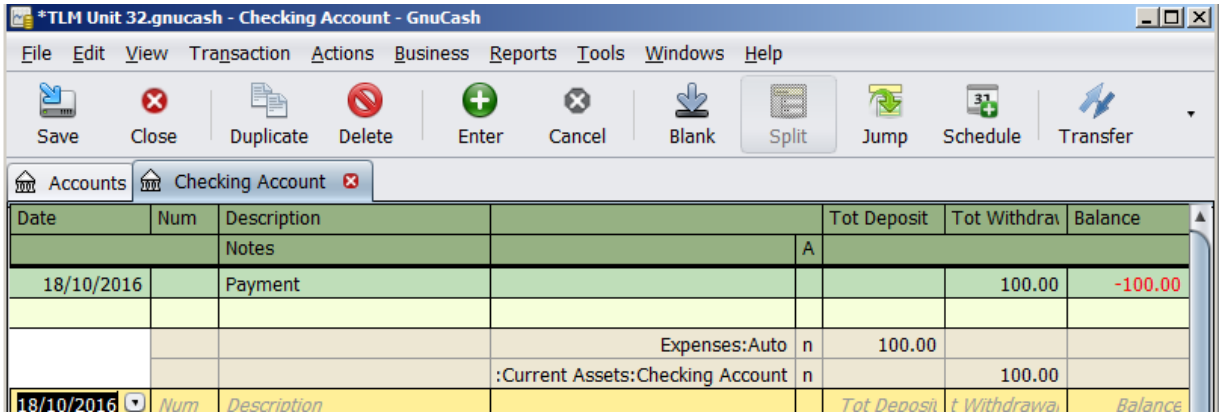
Assessment Method

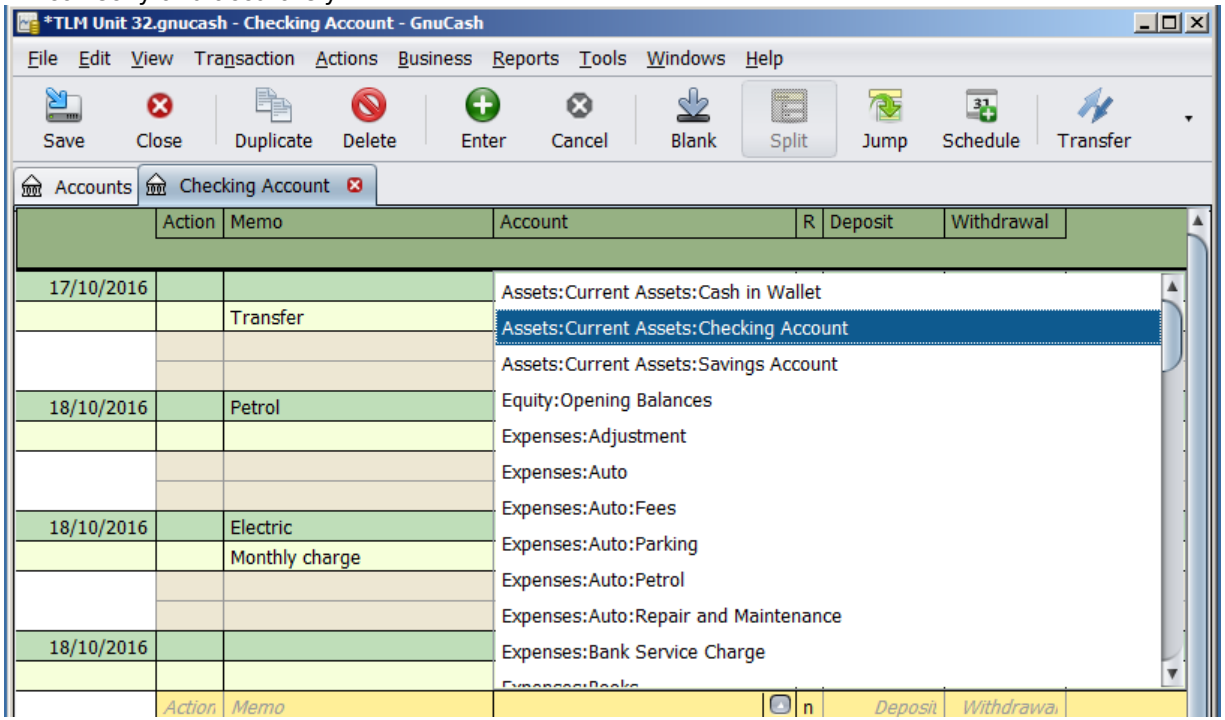
Assessors can score each of the criteria L, S or H. N indicates no evidence and is the default starting point. L indicates some capability, but some help still required. S indicates that the candidate can match the criterion to its required specification. H indicates performance that goes beyond the expected in at least some aspects. Candidates are required to achieve at least S on all the criteria to achieve the full award.

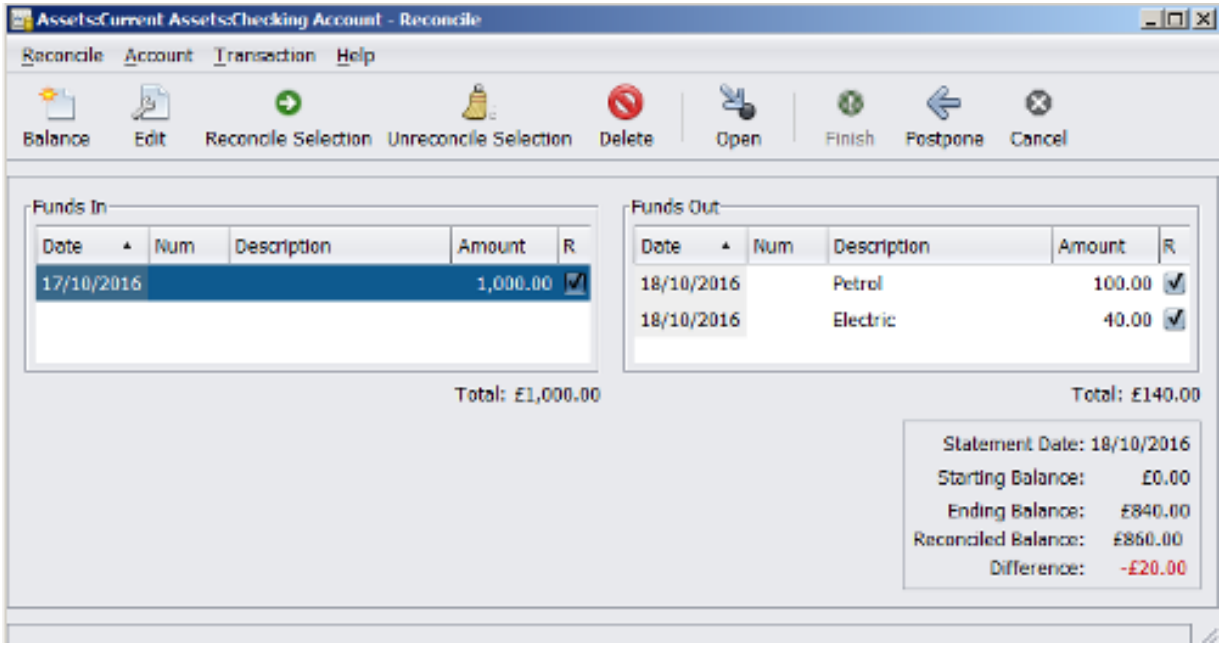
Expansion of the assessment criteria

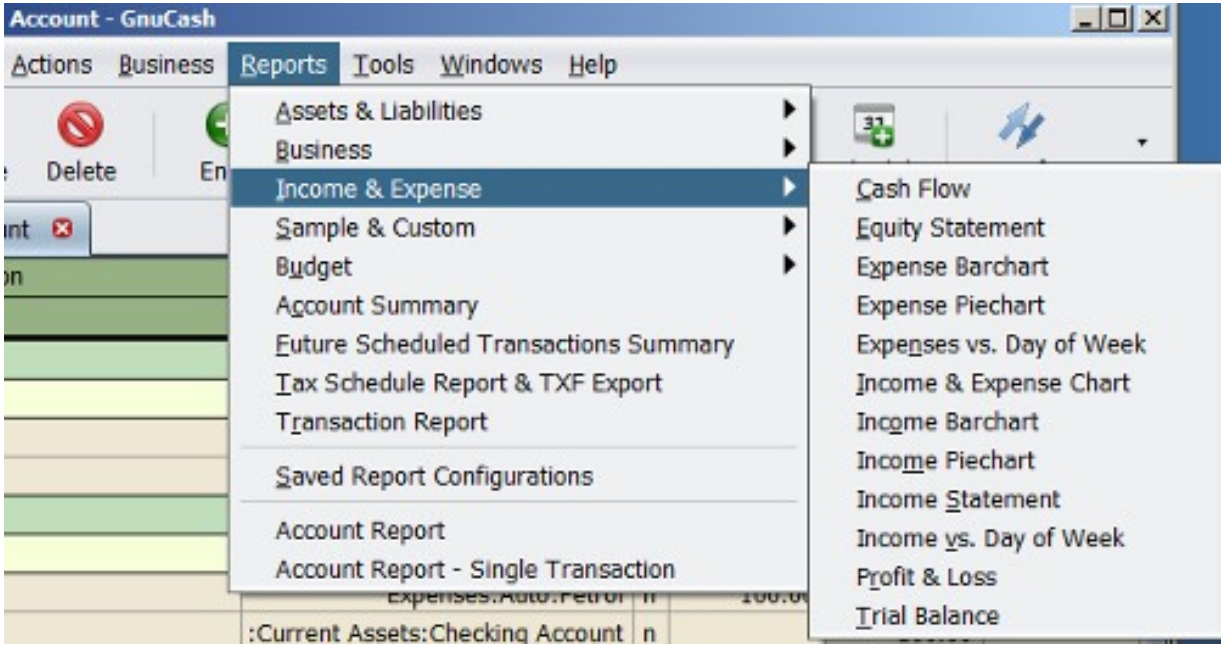
Criteria	Additional Information and Guidance
1.1 I can describe the sources and characteristics of accounting data Candidates should be able to describe the basics of accounting. **Evidence**: will be provided by portfolio work and assessor feedback.	• At its core, accounting is relatively simple as it involves tracking what money comes in and what goes out and making sure they match. With larger companies this becomes more complicated as they often have double entry book-keeping where some negatives are actually positive, in terms of the balance sheet, while some negatives are positive. At this level, candidates just need to be able to describe some of the data that is used in an accounts system. This would be much easier if they are working already with some kind of client or company as these will be clearly defined. The sources of data will vary, but will usually be the aforementioned profit and loss sources. A company or organisation will get some income from some where. This might be through loans, but in most cases will be through sales and services. The other side will be loses or bills. A company needs to pay its people wages to work there, it needs to pay for the lights and heat and other expenses. They may well be renting their office space and leasing their equipment, rather than buying it. The nature of the company or organisation the candidate works with will mean these sources and characteristics will vary greatly, but they will need to list them and describe some of their characteristics.
1.2 I can setup and create new accounting data records to meet requirements Candidates should be able to set up a functioning system based on 1.1. **Evidence**: will be provided by portfolios or presentations as well as assessor feedback.	• Many accounting software packages, such as the Open Source system GnuCash will have pre-set categories and titles for income and outcomes for a company and some will even have pre-set company formats that have everything required for a company of a certain type. In accounting these are sometimes known as account hierarchies as in the following screen shots.  As you can see, there are pre-defined types of accounts. In the example here it is the default one of

	a common accounts hierarchy which will have most of the income and expenses of an average account. There are also educational loans and other incomes and expenditures such as investments or mortgages etc. All of these can be adjusted later as required, but offers a good starting point. Most of the expenses categories will be things like petrol, electricity, rent, food etc. After this selection has been made, the system can be set up with pre-existing balances. This might be something like a loan that was given to start a business or money that is already in the bank to start off. After the choices have been made and saved, there will be a basic accounting interface to work with. 
1.3 I can locate and display accounting data records to meet requirements Candidates should be able to show competence in using the accounting software. **Evidence**: will be provided by client and assessor feedback.	• Using a straight-forward "common" system as described in 1.2, candidates should be able to show they know their way around the system and can find and display basic accounts and explain what they mean. They should be able to identify what accounts are money going out and what ones are money coming in. Each interface will be slightly different, but there should be a common layout as they are designed to match an accounts ledger which were the pre-digital versions of this software. As mentioned already a number of times, the accounts displayed will vary depending on what type of client the candidate works with.
1.4 I can check data records meet needs using IT tools, making corrections as necessary Candidates should be able to ensure their data is accurate. **Evidence**: will be provided by portfolio work and portfolio reflections.	• Most IT applications are about minimising the GIGO (garbage in garbage out) effect, or in UK terms the RIRO (rubbish in rubbish out) effect. In any application if you enter data incorrectly it causes a great deal of additional problems, but that is brought into sharp relief when dealing with accounting. A typo in accounting could mean a large difference in outcomes. If a payment of £100 gains an extra 0 by mistake, your company is now 10 times worse off. There are various tools built in to IT systems to check for mistakes and candidates should use some method to make sure they are entering the correct data.

1.5 I can respond appropriately to data entry error messages Candidates should be capable of fixing issues when they receive warnings. **Evidence**: will be provided by portfolio evidence and assessor feedback.	• Most systems will have built in tools to make sure that data is entered correctly. An obvious one would be some for of field control so that text can't be entered in a number field and vice versa. There are also tools to check for balance issues. If the system shows that some numbers do not add up, for example when running a reconciliation utility, candidates should be able to show that they have an idea where the problem might be and how to address it. One common expression relating to accounts is being, "in the red". The graphic below shows that if you pay money that you don't actually have in the organisation, you will see that it is in the red. This is one obvious visual clue to a problem.  • This would be easy to spot and fix as it is all based on one area of the system, but if it was linked to other accounts that were not visible in this view, the candidate would need to know where to look for the issue.
1.6 I can describe the risks to data security and procedures used for data protection Candidates should be able to describe the threats and how to minimise them. **Evidence**: will be provided by portfolio work and assessor or client feedback.	• Candidates might produce a presentation showing what the threats are and how they can be reduced. There is probably no way to completely eliminate them as there will always be human errors and people trying to take advantage of ways to make easy money, but some indication of ways to deal with these would be helpful. If a company looses a document file, it might be an inconvenience, but may not necessarily disrupt the entire company. If the company's accounts get lost or damaged, however, it might even mean the end. Therefore, it is important to protect all the data as much as possible. This means restricting physical access to machines with accounting data on and the roles and permissions of people who work on the system. The data files need to be regularly backed up and these back-ups need to be test restored now and then to make sure they are usable. The systems themselves will sometimes have protections such as password protection for entry and the files themselves can have permissions set to only be read by certain people. Many small businesses might be using cloud based accounting packages due to the cost and this will add another layer of complexity in terms of securing the data.
1.7 I can apply local and/or legal guidelines for the storage and use of data Candidates should be able to work to the rules and regulations required by the company they work with or the government.	• Candidates will be required to comply with various internal regulations when working on an accounting system, as well as national regulations, in particular the Data Protection Act. The data will also be subject to UK tax laws if it is a company or charity and each of these will vary depending on what the company does. Candidates just need to show that they understand what these are and do their best to work within them.

Evidence: will be provided by portfolio work.	
2.1 I can select and use appropriate tools and techniques to enter and process transactions Candidates should be able to demonstrate competence with the accounting software for specific tasks. **Evidence**: will be provided by portfolio work and client feedback.	• Candidates need to show that they can be given a list of transactions to enter and they can enter these appropriately into the right categories and in the right way. For example, the client should be able to give the candidate a stack of invoices and bills and have them enter them correctly and accurately.  The candidate will need to show that they understand what receipts relate to which accounts and whether they are reducing the overall balance or adding to it.
2.2 I can review transaction processes and identify any errors Candidates should be able to find and correct any problems that arise when entering data. **Evidence**: will be provided by client or assessor feedback or	• Candidates should be able to show that they are careful when entering data and double check their entries, or even treble check, before they hit the save buttons. If they make mistakes, they should know how to correct them before they become permanent. They might carry out a monthly reconciliation report with the client to see how to look for any entries that do not match and which therefore cause imbalances in the numbers generated.

via reflective portfolio work.	
2.3 I can respond appropriately to any transactions errors and problems Candidates should be able to show competence and confidence in their working actions. **Evidence**: will be provided by client feedback.	• Candidates need to show that they are aware that errors occur and are constantly checking their data entries to make sure they are accurate and correct and to go back over entries to check for problems to change these before too late. Some of these errors may appear later, in reconciliation reports, but at least candidates can show that they know how to go in and fix these quickly and effectively. Over time, they should make less errors and will be more efficient.
2.4 I can select and use appropriate tools and techniques to process period end routines Candidates should be able to carry out an end of month/quarter etc. or reconciliation. **Evidence**: will be provided by client feedback and candidate reflections.	• Depending on how a company works, the bank will send or publish on-line their monthly or quarterly reports and the internal system needs to match this exactly. This is a reconciliation report. Both systems need to match and if any errors are evident, the candidate will need to determine if the error lies in the company system or with the bank. In the following screen shot, the reconciliation has been carried out, using the bank statement that there is £840 left in the bank, but the internal system shows that there are only 2 transactions and the total should be £860.  • The problem here could be with the bank, but the candidate would need to go back over their paper work and make sure that the 2 transactions were for the amounts shown and if

	they were, then the bank will need to be notified to launch an investigation.
3.1 I can describe what information is required and how to present it Candidates should be able to describe the types and style of report required. **Evidence**: will be provided directly from the presentation of work in portfolios or client feedback.	• Candidates might need to discuss with their client what their specific needs are. In most cases, the data in the accounting system will be used for decision making: do we have enough money in the bank to hire someone in sales; how much did we sell in Wales last quarter etc. Different accounting systems will have a range of pre-set reports and also have the ability to make custom reports to exactly match what information is needed to be output to be presented. The presented material can either be directly via a projector or as graphics or spreadsheets to be printed on papers, such as for management or financial reports.  • There are lots of pre-set reports on this system that are related to different areas of the company such as basic assets and liabilities or income and expenses. Candidates can talk about a range of these report forms and say what they show and how the data is presented, i.e. the main purpose.
3.2 I can prepare and generate accounting documents Candidates should be able to generate the required documents requested by their client. **Evidence**: will be provided by portfolio work and client feedback.	• This criterion will depend on the candidate's client as they may request different kinds of report and in different format. They just need to show that they can respond to these requests in the appropriate way.

3.3 I can prepare and generate management reports as required

Candidates should be able to produce management reports as required.

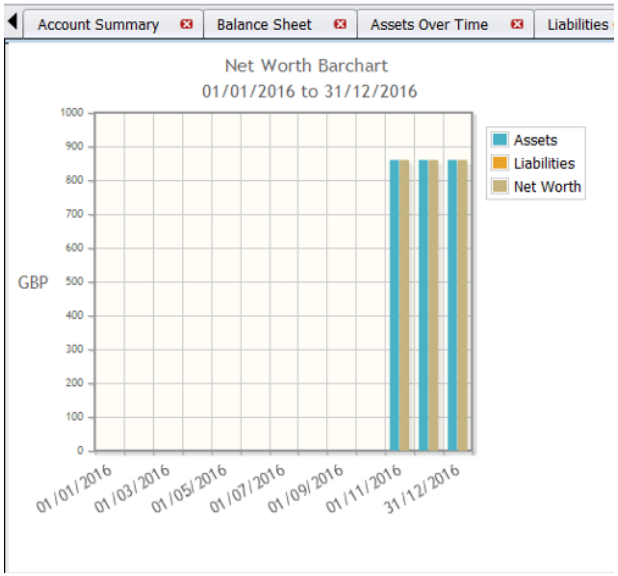
Evidence: will be provided by portfolio evidence and client feedback.

- As above, this will vary with the client, but in general terms the candidates should be able to output or compile management reports so that management can make long term decisions. These reports could be with introductions and summaries and will incorporate a range of data and charts. The following is a basic balance sheet which could be incorporated into a word processed report as an image. On the right is a bar chart with a more graphical representation of the current balances.

TLM Unit 32 Balance Sheet 31/12/2016

Assets			
Assets		£0.00	
Current Assets	£0.00		
Cash in Wallet	£0.00		
Checking Account	£860.00		
Savings Account	£0.00		
Total Assets			**£860.00**
Liabilities			
Liabilities		£0.00	
Credit Card		£0.00	
Total Liabilities			**£0.00**

- This is a traditional way of displaying a balance sheet, but there are also graphs and other visual outputs that can be used.



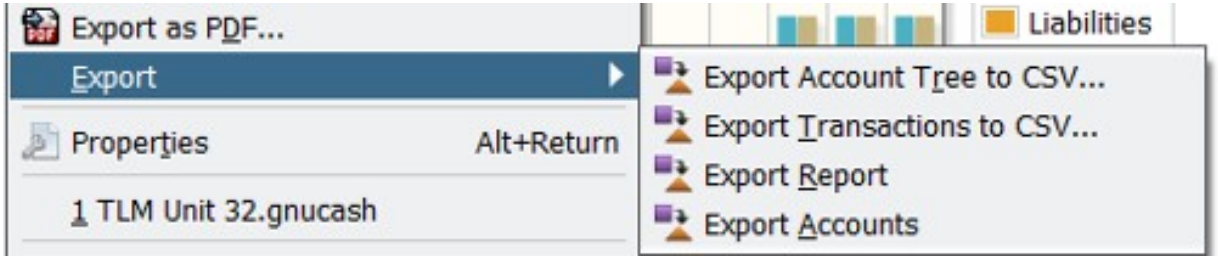
- Either of these reports can be customised and exported in different formats to suit the type of management report required by the client.

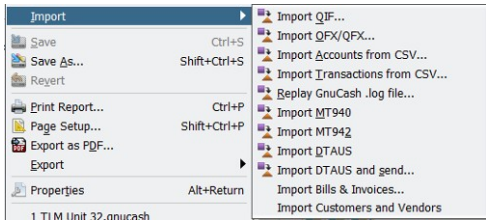
3.4 I can import and export data and link to other systems and software

Candidates should be able to work with other systems.

Evidence: will be provided by portfolio work and assessor/client feedback.

- Many companies may change their accounting system for various reasons. It might be that the current system is not sophisticated for their recent growth and does not have all of the features. In this instance, they need to be able to migrate their system without losing any data. Most systems have the ability to import from other packages and there are some standard file formats, such as QIF (Quicken Interchange Format) or CSV (Comma Separated Values).





	• Some systems may need to link to external systems, such as an online banking system or a live currency converter if the company does a lot of international transactions. 

Sample Optional Unit - Level 2, Unit 80 - Digital Tools and Best Practice for Project Management (5 credits)

1. Understand the principles of project management	2. Plan using project management best practices	3. Evaluate the effectiveness of project management
1.1 I can understand the principles of project management	**2.1** I can understand the need for a clear plan on project work	**3.1** I can analyse the effectiveness of my own project management
1.2 I can list digital tools used in project management	**2.2** I can define best practices and tools used for my project	**3.2** I can summarise the best practices I have employed
1.3 I can explain the stages of project management	**2.3** I can list the main milestones in a project	**3.3** I can document the best practices that were most effective
1.4 I can explain the role of team players in projects	**2.4** I can describe the stages I will use for my project	**3.4** I can describe the technologies used to enhance project management
1.5 I can describe the strengths and weaknesses of project management	**2.5** I can define the roles and responsibilities of the team I work with	**3.5** I can analyse the roles and responsibilities of a team
1.6 I can create an implementation template for a project	**2.6** I can produce a detailed plan for the project using best practices	**3.6** I can analyse the strengths and weaknesses of project management

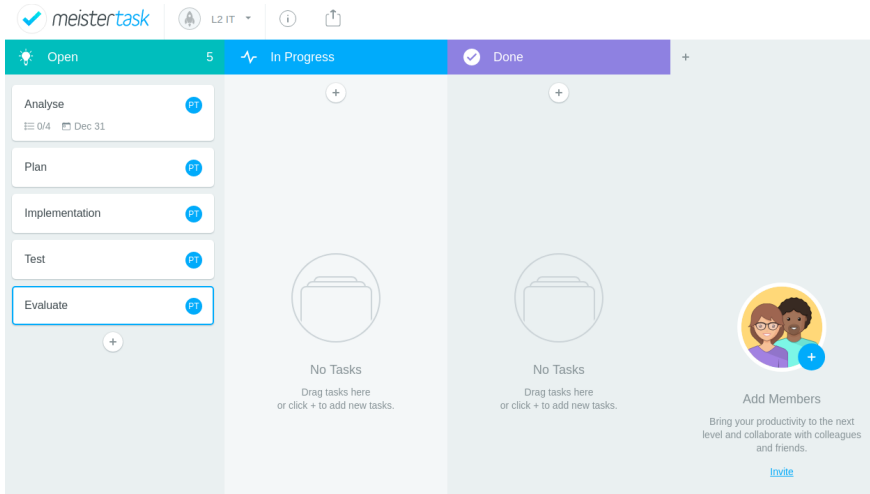
Assessment Method

Assessors can score each of the criteria L, S or H. N indicates no evidence and is the default starting point. L indicates some capability, but some help still required. S indicates that the candidate can match the criterion to its required specification. H indicates performance that goes beyond the expected in at least some aspects. Candidates are required to achieve at least S on all the criteria to achieve the full award.

Expansion of the assessment criteria

Criteria	Additional Information and Guidance
1.1 I can understand the principles of project management Learners should be able to demonstrate an understanding of what project management is and how it is used with some real-world examples. **Evidence**: Coursework	• Learners need to show some research and investigative skills. This research and summary work will provide the backdrop to all the work they do on this qualification and in other areas, so needs to be comprehensive. • Project Management is a process that usually works in a cycle as no project is ever completely finished and perfect. Learners will begin by analysing the nature of the problem they are faced with. This will be in conjunction with a client as they will need to meet the client's needs and this will inform their work. • Once they have analysed the problem and have an idea of what is required, they will come up with a design. The design does not need to be final, but will act as a guide to what they attempt to do. • Using their plan, they can then implement or build a solution to the problem and check for any issues. • The next phase, will be a testing phase where they make sure that the system or solution they have built is what was asked for in the first place. If there are any problems, they will need to be adjusted. • The final phase, although it is not really final, is the evaluation where they reflect on how it all went and think about how to do it better.
1.2 I can list digital tools used in project management Learners should make a list of tools they will use to complete their tasks. **Evidence**: will be provided by portfolios or presentations as well as assessor feedback.	• Learners need to give an indication of some of the tools they will use with some guidance on what they do or will do with them. The content here will depend on what the learner's project is so there will be no set list here, but hopefully a range. Free and open source tools should be used wherever possible to minimise cost and to support this industry. An example of some tools which can be explored will be: •Word processors •Spreadsheets •Databases •Graphics applications •Video editing tools •Animation software •3D Modelling software

	•DTP applications •Web based applications
1.3 I can explain the stages of project management Learners will demonstrate a working knowledge of project management. **Evidence**: coursework and assessor feedback.	• Learners can flesh out their understanding of the main stages. There are different version that are used and they can choose the one that best suits the way they work and their objectives. Traditionally it is: Analyse and Research; Plan; Implement and Create; Test; Evaluate. They will need to explain each of the stages in terms of how they work and what they are for. Some of this may be apparent in their controlled assessment. • A more detailed breakdown of how these will be assessed is in the controlled assessment
1.4 I can explain the role of team players in projects Learners should be able to identify different roles and responsibilities. **Evidence**: will be provided by portfolio work and portfolio reflections.	• Learners will, for the most part, be carrying out most of these roles themselves, but should still be aware of the different people that make a project successful. In large organisations there will be different managers and workers in each of the different areas and each one of them will have an important role in the project's success (or failure). • Some of the roles they will come across and may be relocating in their work are: • •Project sponsor or client •Stakeholder •Manager •Analyst •Developer •Quality assurance manager/staff •Administrator •Team leader •Project staff

	Each of these, in addition to the overall project manager, will have a different role in each phase or all phases. Learners can give a brief description and some examples of what some of these people do.
1.5 I can describe the strengths and weaknesses of project management Learners should describe the good and bad points of this approach **Evidence**: will be provided by portfolio evidence and assessor feedback.	• Learners will be able to reflect as they work through their project what is effective or not. Project management is a useful process and in most cases it will be ideal for what a team needs, but perhaps not. It might be too restrictive. Are there alternatives that could be used? • Learners need to make some notes as they work through their projects and assess what worked well and what didn't. This will allow them to show that they understand the strong aspects of project management, and where they might use these again, or the weak points that they probably would not use. This process will make them much better when they work on IT projects in the future and especially with other team members or across organisations.
1.6 I can create an implementation template for a project Learners should be able to put together a rough working draft of their project process. **Evidence**: will be provided by portfolio work and assessor or client feedback.	• Learners will put together a working plan with the key areas of project management and something like a Gantt chart to track their time and actions. They can use whatever system they like, though there are useful online tools that they can explore such as https://www.openproject.org/ https://www.meistertask.com/  • Some of these may be overly complicated, but will introduce learners to what companies use in the work environment.

	In most cases they will use basic office tools such as a word processor to develop the plan and a spreadsheet to track deliverables.
2.1 I understand the need for a clear plan on project work Learners should be able to show that they understand the useful aspects of planning with some examples. **Evidence**: will be provided by portfolio work and client feedback.	• Learners should put together some of their views to show how they think, or in some cases know, that planning helps them achieve their goals. They can use examples from other subject areas if they need to, but will need to be clear about the way planning guides them and allows them to try and stick to deadlines and achieve targets. Plans will not necessarily be fixed and in many IT projects teams use more agile or flexible systems, but a plan is always a good place to return to and check that things are going well. The clearer and more detailed the pan, the more likelihood of overall success.
2.2 I can define best practices and tools used for my project Learners should elaborate on their choice of tools and methods. **Evidence**: will be provided by client or assessor feedback or via reflective portfolio work.	• Learners will have decided on their overall project focus and this will have determined, at least initially, the types of tools they are likely to use. This in turn will determine how these tools might be used, so the methods employed. By this stage, learners should be able to start adding some detail to their plans about specific parts of the process and some guidance about the role their chosen tools will play. For example, if they are making a budgeting system for a local charity, they will need to define some of the features of a spreadsheet they are likely to use, such as specific formulae, in order to get the outcomes expected. If they are creating a website for a customer, what types of colour schemes must they use and what kind of graphic package will output the proper file formats for the tasks.

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2.3I can list the main milestones in a project

Learners will show that they know what their main and sub targets are and what dates these will be met by.

Evidence: will be provided by client feedback.

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- The milestones in a project are the key stages that need to be completed in order for an overall project to work. If learners are still working on the analysis after 6 months, it is unlikely that the project will be completed in time. Learners will not be experienced in gauging all of these timelines initially, so some flexibility is expected, but the project overall needs to be completed within the confines of the dates for examinations, which gives a fairly clear end date.
- As with all aspects of a good project plan, there will need to be some amount of adjustment as the project progresses, but it is useful to list some of the main milestones. For example.

<table>
<tr><th>Element</th><th>Analysis</th><th>Design</th><th>Implementation</th><th>Test</th><th>Evaluate</th></tr>
<tr><td>End date</td><td>Half term 1</td><td>End of term 1</td><td>End of term 3</td><td>Term 4</td><td>Term 5</td></tr>
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2.4 I can describe the stages I will use for my project

Learners should be able to detail the stages as they develop and use them

Evidence: candidate reflections.

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- This is putting some detail into the different sections. If learners are using one of the suggested PM tools above, this could be adding subsections or elements at each stage. For example, under analysis, it could be analysing the client’s needs for input, process and output. For the testing stage, it could be using different browsers to test the website design. This will make each stage clearer and be better for overall management. Learners could also start to build in the different roles responsible at each stage or the expected outputs.

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2.5 I can define the roles and responsibilities of the team I will work with

Learners should be able to define a number of key roles and what they do

Evidence: coursework

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- The learner is likely to be working mostly on their own on this project, though it would be useful if they worked in small teams if this is appropriate. If they do this, the assessor will need to show the individual contributions, but it will give a more realistic view and experience of project work.
- If one of the team members is responsible for the testing phase, then the other team members will rely on them to complete their part in the allotted time or it will affect everyone else.
- The learner themselves, in most instances, will be the overall project manager and therefore will need to ensure that the project meets the targets at the right time and meets the needs of the initial client request. Having said that, if they are working as part of a team they will still be responsible for their own elements of work. If working with colleagues, for example they may be the go to person in the centre for graphics, they can be managed by others for a different aspect e.g. sound or the testing of the product: they may even jointly manage a project.
- The responsibilities of some of the developers will be to design a product or aspects of some application that do as was requested or improve on an existing process.

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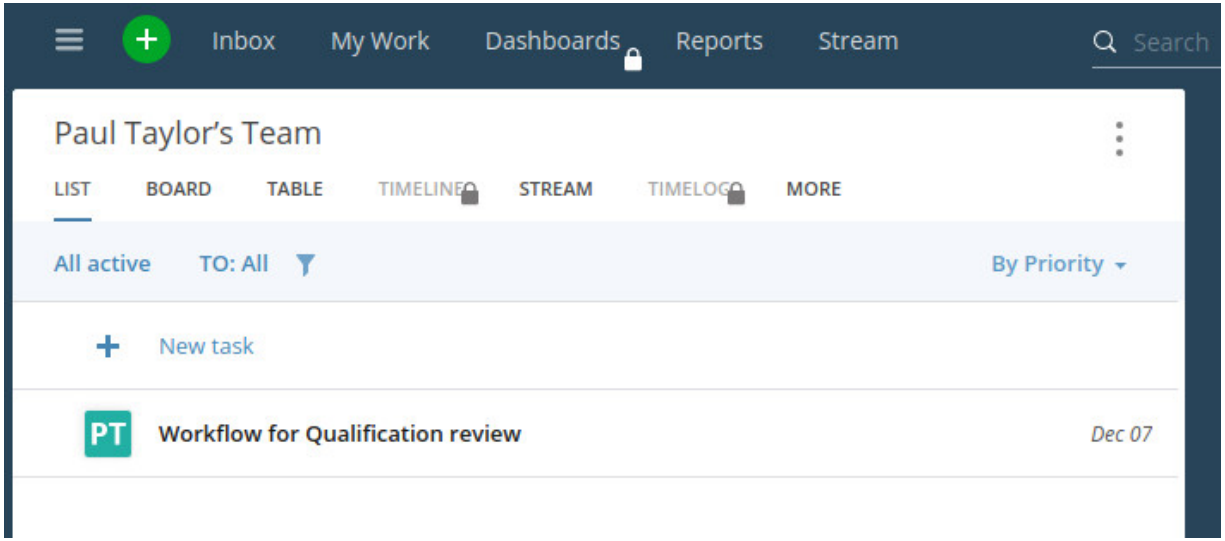
2.6 I can produce a detailed plan for the project using best practices Learners should produce a workable plan at the end of their initial investigations **Evidence**: coursework	• The plan should be detailed enough to begin working on the solution, but will not be so detailed that they can't adjust it to suit changing circumstances. • The plan should incorporate some of their learning and understanding about project management. This will include detailed timelines and milestones. It could include some costings, or perhaps, if they are using open source solutions for a client who traditionally uses expensive proprietary ones, they could include the cost savings and TCO (Total Cost of Ownership). • If they are working with a team or dependent on some external people, this should be documented and managed.
3.1 I can analyse the effectiveness of my own project management Learners should be able to judge some of their work in terms of outcomes **Evidence**: work in portfolios.	• Part of the earlier elements of this unit would have been planning and developing processes. With this framework, it should be relatively easy for learners to make some judgements and analyse their work. • In the analysis phase, did they use the right research tools and gather information that helped them be more effective and efficient. Could they have talked to more people of experience to get as many answers to questions as possible. Did they think carefully about how long different elements might take to design a plan that was fully workable. • In the design phase, did they explore as many tools as possible and look for the most appropriate in terms of completing the tasks. Did they think of cost saving elements and think about how designs could be maintained once the job as completed. • During implementation, did they over complicate the process and therefore miss deadlines. What process worked well enough that they would use it on other projects. Did the team, if they used one, work as expected or did it cause issues. • In the testing phase, did they do a wide enough and detailed enough set of tests to make sure the end product would work in all situations and circumstances. Did they produce clear guidelines from the tests so that someone else could fix any problems that arise. • In the final evaluative phase, did they ask themselves difficult questions that would help them later. Did they get detailed feedback from clients and how might this make their work even better.
3.2 I can summarise the best practices I have employed Learners should be able to discuss the process with some examples **Evidence**: will be provided by portfolio work	• Learners should be able to summarise their experiences with different aspects of their project management and what practices they used. The summary doesn't have to be hugely detailed, but should give an indication of what they did and some of the key elements of it. For example, they may say they deployed some software tool to track the time they spent on different tasks or they may discuss a collaborative tool such as LibreOffice online they used for sharing ideas on plans and other documents. • If they used a survey tool to collect ideas from people, which one did they use and how did they design it to get the best information.
3.3 I can document the best practices that were most effective Learners should keep track of their actions to help themselves and others	• If learners are hoping for a career in IT, or an academic route involving IT, they need to get into the habit of recording and documenting all that they do. When a system breaks, whether it is software or hardware related, the first place to look is at the documentation used to set it up. Good documentation is incredibly important for good systems and as IT professionals learners need to write clear and useful guidance. The guidance can also include what not to do based on their own bad experiences. This will help them try to retrace their steps and also look for things

Evidence: will be provided by portfolio evidence	that worked well so try these on future projects. • As people learn in different ways, wherever possible they should include screenshots to make their explanations clearer. They could also record videos, but the issue then becomes who can access these and how.
3.4 I can describe the technologies used to enhance project management Learners should describe the tools they used for their project management **Evidence**: will be provided by portfolio work	• Ideally, learners will have explored some online custom tools for project management, but they could also use more basic tools such as email or shard documents and spreadsheets in order to track what they do. Online tools will often have clear templates and guidance to assist them in getting things done correctly. • The following screenshot is from Wrike (https://www.wrike.com)  • Learners can add tasks and deadlines and add people as a team and all people will get notifications as deadlines approach and allow everyone to keep on top of their timelines and milestones. • Learners can show some of these screenshots in a document with call-outs to explain the features they used.
3.5 I can analyse the roles and responsibilities of a team Learners should understand how teams work together and how to set up teams and assign people to their strengths **Evidence**: will be provided by portfolio work	• The roles used, and therefore the responsibilities, will vary depending on what learners are working on and what resources they have access to. In many cases, they will fulfil many of the roles themselves, but will still need to show they understand some IT roles in teams and what these people should do. For example, what are the key roles of the project manager themselves. What responsibilities does a software developer have and is it their responsibility if the project goes over budget? • A table may be useful to make their finding and conclusions clearer.

Position	Reports to	Role (s)	Responsibilities
Budget Manager	Project Manager	Track expenses Pay bills Pay wages Model costs	Finances
Software Developer	Project Manager	Writes code	Documentation Bug fixing Testing

3.6 I can analyse the strengths and weaknesses of project management

Learners should be able to analyse their project management experiences

Evidence: will be provided by portfolio work

- If learners have kept detailed logs and reflections as they worked through their project (which they should), they should be able to analyse what worked well and what didn't, as well as the reasons and some examples. It is never easy to come up with weaknesses, but many tools are far from perfect and always being improved so they could try and discuss what did not work well and what could be improved. This book is written with Google docs and works reasonably well most of the time, but does have some annoying quirks. It will be the same for most tools. Many tools are designed by people to solve their own problems and these may not be the same problems for all.
- They may be able to write in their own words if online tools and software based project management systems are a help or a hindrance. They certainly work well, but do they take too

	long to understand and therefore become a burden? They might be, but is it worth the effort as it will save time in the long run?