

A Practical Guide to Assessment for Learning

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The learning objectives and assessment criteria were developed by e-skills, the UK Sector Skills Council for Business and IT.

The Qualifications and Credit Framework was designed by the UK government Qualifications and Curriculum Development Agency and referenced to the European Qualifications Framework devised by the European Union.

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1. INTRODUCTION - About the INGOTs

**Note: There is a web version of this handbook at
www.theingots.org/community/handbook2**

This will provide more links to more up to date information than the paper version and specifications for a wider range of units.

1.1 Who are we?

- 1.1.1 The Learning Machine Ltd (TLM) is an Awarding Body Accredited by Ofqual, DELLS and CCEA, the regulators for qualifications in England Wales and Northern Ireland. TLM is endorsed by e-skills, the UK Sector Skills Council for Business and IT that ensures qualifications meet the needs of industry and employers.
- 1.1.2 TLM is responsible for developing and managing a new and innovative family of qualifications called The INGOTs (INternational Grades - Open Technologies). These qualifications are based on internationally agreed standards and support the use of Open Technologies freely available from the internet. The latest members of the INGOT family provide the new UK National Vocational Qualification for IT Users, the ITQ, developed by e-skills. This is referenced to the European Qualifications Framework (EQF) and so the ITQ becomes the International Technology Qualification. INGOTs are supported by the EU Lifelong Learning Programme through two Leonardo Da Vinci Transfer of Innovation grants. We will produce further qualifications with other subject contexts as resources allow and over time, we will provide free on-line courses to support the qualifications for all using Creative Commons licensing so that sharing resources is made easier.

1.2 Philosophy and vision

- 1.2.1 The INGOT philosophy is to provide clear progression routes for learners, from the most basic levels of competence including supporting those with special needs. This progression is recognised and rewarded through certificates at each level of achievement. The assessment details are based on the new Qualifications and Credit Framework (QCF) that has the flexibility to link to nationally accredited frameworks, for example, the National Curriculum and GCSE In the UK and more generally the European Qualifications Framework. The INGOT criteria are competence based, designed to enable self and peer assessment to support personalised learning and learning how to learn. Trained independent assessors accredited by The Learning Machine must verify the assessments before accredited awards can be made and the assessors have flexibility to tailor learning contexts to local and individual needs.
- 1.2.2 Improving value and enabling more people to participate in formal qualifications are key aspects of the strategy. INGOT certification lowers costs compared to traditional qualifications and the learning associated with the INGOTs enables learners to lower their IT operating costs. This is because we can provide increasing capability in exploiting Open Systems, making maximum use of information and software applications that are freely and legally available from the internet. Having said this we don't force anyone to use any particular technologies, we simply highlight issues where savings can be made and generally use free and open source resources when illustrating examples. The management systems and IT resources used by The Learning Machine are all built on Open Source software. For the assessment, matching the assessment criteria with the applications used in the local working

context is all that is required.

- 1.2.3 Reducing dependency and increasing technological self-sufficiency opens up very low cost learning for all with the longer term potential to reduce costs for businesses making them more competitive. INGOTs combine the best aspects of academic learning with the practical applications associated with vocational training. We want to make learners ready for change and free them from dependency on specific commercial interests so they can make better quality decisions about the technologies they use in the future. This means providing opportunities for higher level learning as well as basic operating skills. We want to empower learners to make choices that can improve the quality of their lives and the competitiveness of their employers. Our long term strategy is to enable economically disenfranchised people to get internet access and eventually provide a full and free on-line curriculum for schools (and adults who missed out on school) sustained financially by the quality assurance service of certification and community participation.

2. Qualifications Overview

2.1 Qualifications in Open Systems and Enterprise

2.11 Summary of aims

To ensure that there is a balanced approach to learning that reflects contemporary society by

- Motivating learners through formal recognition of their achievements.
- Bridging the academic/vocational divide.
- Providing practical support for inclusion.
- Improving support and rewards for progress irrespective of age.
- Improving the balance in emphasis on skills, knowledge and process.
- Reducing the cost of accredited qualifications.
- Integrating staff development in the assessment process for schools.
- Providing transparency for qualifications through reference to the European Qualifications Framework.
- Ensuring the qualifications are competence based drawing on practical and realistic contexts from the work place now and of the future.

2.12 Basis for the qualifications

- 2.12.1 These qualifications are based on of the UK National Occupational Standards (NOS) for IT Users devised by e-skills, the UK Sector Skills Council for business and IT. ITQ units are translations of the NOS into learning objectives and assessment criteria in the Qualifications and Credit Framework (QCF) referenced to the EQF. TLM's specific implementation provides guidance for its accredited assessors so that the qualifications can be delivered in contexts that fulfil the statutory curriculum for schools as well as for those in work or seeking work. The qualifications are designed to provide learning that can progress based on individual needs irrespective of age or current levels of attainment in a wide range of contexts. There are opportunities to reward the weakest and stretch the brightest. There is scope for differentiation by outcome since the contexts for individual units at different levels can be the same with the autonomy of the candidate and the degree of self-sufficiency determining the level.
- 2.12.2 The qualifications support learners in making the transition to Open Systems and internet based technologies to reflect the increasing importance of interoperability in globalised industries and for consumers. Enterprise is encouraged through project work and emphasis on learning to work collaboratively to produce information resources and/or services that will be useful to other people.
- 2.12.3 The structure of the units enables a simple step into formal qualifications for those with little or no experience. This includes young children, the elderly, those in countries with limited access to education and those with moderate learning difficulties thus promoting inclusion, the personalised learning agenda and life-long learning. There are appropriate progression pathways for applied learning through participation irrespective of age, gender or disability. There is flexibility to choose

different combinations of units to achieve qualifications of different breadth at a particular level. We ensure that learners can make informed choices about which technologies they use both at home and at work. Participation is not limited by the economic cost of buying software or digital content licenses. Preparing learners for technological change with most information becoming freely available from the internet, is key to 21st Century learning.

2.2 The assessment requirements

The fundamental requirement is for the learner to demonstrate capability against specified assessment criteria that have been designed as indicators of learning outcomes grouped into units.

Unit title
↙

2.21 Example - Improving Productivity using IT

Plan the use of IT to meet requirements	Use IT systems to complete planned tasks
1.1 I can identify the advantages of using IT for the task	2.1 I can use an IT system to complete planned tasks following identified safe practices
1.2 I can plan how to complete the task using appropriate IT systems and software	2.2 I can check that the outcome meets requirements
1.3 I can identify any safety and security issues affecting the use of IT for the task	2.3 I can identify ways to improve the use of IT for the task

Learning Objective (What the learner will be able to do if they meet all the criteria)

Assessment Criterion (What the learner demonstrates they can do as evidence of achieving the learning objective)

2.21.1 They do this by working with an authorised assessor to gather the appropriate evidence that the assessment criteria have been met. The assessor must demonstrate to TLM that they have the knowledge and experience to make sound professional judgements at the levels at which they are authorised to assess. Assessment judgements are externally checked by TLM's Account Managers through dialogue with the assessors, requests for evidence and random samples of learner work from the INGOT learning site.

2.21.2 Ingot assessment is designed to be formative (AfL) and personalised for both assessors and learners. If the Account Manager disagrees with the Assessor, they will explain why and require the Assessor to produce further or different evidence to justify the award based on the assessment criteria and the detailed guidance in this handbook. In the rare event that an Award has been made and there comes to light reasons why it should not have been, the Award will be suspended in the database so that it will not authenticate until the evidence of meeting the criteria has been provided.

2.22 Are the INGOTs a course?

2.22.1 INGOT qualifications are NOT courses, they are a method of accrediting learning outcomes. Professional teachers can provide courses leading to INGOT accreditation with the flexibility to support their own teaching styles and individual learner needs. (Personalised learning) While there are examples and supporting materials available from the web site there is no intention to tell teachers how to teach. As long as the

assessment criteria can be met, subject to the guidance provided in this book, that is the sole requirement. In the example above, any course supporting planning, execution and evaluation of an IT task could be used effectively as a focus for assessment. This could be part of an existing course, there should be no need to make extensive changes to existing valid and well planned programmes of study, we are simply providing an assessment for learning model that can be applied with low bureaucratic overhead and support for recording and certification. Broadly, the Silver and Gold INGOTs are about making information available on the internet through collaborative work and supporting this process with a range of tools in typical working contexts. Any course or courses that provide opportunities to do this are suitable for supporting INGOT accreditation.

2.23 Common features of unit assessment

1. Assessment criteria are provided for each unit. The assessor must make a judgement about the learner's performance against each of the criteria statements using evidence directly from the learner's work set in realistic contexts.
2. All the assessment criteria start out as "N" meaning no assessment evidence.
3. When there is evidence provided by the learner, the assessor judgement is recorded as "L", "S" or "H" against the assessment criteria.
4. When the learner has made some progress towards a particular criterion based on the evidence but there is insufficient evidence of full and secure competence, the assessor records "L" meaning lower than.
5. When there is sufficient evidence that the learner can securely meet the requirements of the particular statement, the assessor records "S" meaning "Secure" in these requirements.
6. If there is clear evidence that the learner is performing above and beyond the stated level, the assessor records "H" meaning "Higher"
7. When all the criteria in a given unit are at "S" or "H", the learner has successfully passed the unit.

2.23.1 The use of L,S,H is a simple means for monitoring progress and informing future planning. It should be explained to and understood by the learner to enable them to take part in the assessment for learning process. If they are willing, sharing with peers can also be a powerful means of motivating learning. The exact methods are not mandatory, the only mandatory requirement is that there is clear evidence that the learner has met the criteria.

2.24 Gathering evidence

2.24.1 The evidence of the learner achieving a unit can be provided in many ways. Most often for the Silver and Gold qualifications it will be through an e-portfolio of web pages referenced to the assessment criteria and files of digital information. The learner can take responsibility for gathering the evidence required and present it to the assessor and we provide free hosted tools to support this on the INGOT learner site. These tools enable the learner to document their evidence referencing the assessment criteria and thus take progressively more responsibility for setting their own learning goals, improving their skills in self-evaluation. This process can itself provide evidence of meeting some of the assessment criteria in relation to Using Collaborative Technologies, Web Site Software and Improving Productivity using IT since all of these are involved in the process.

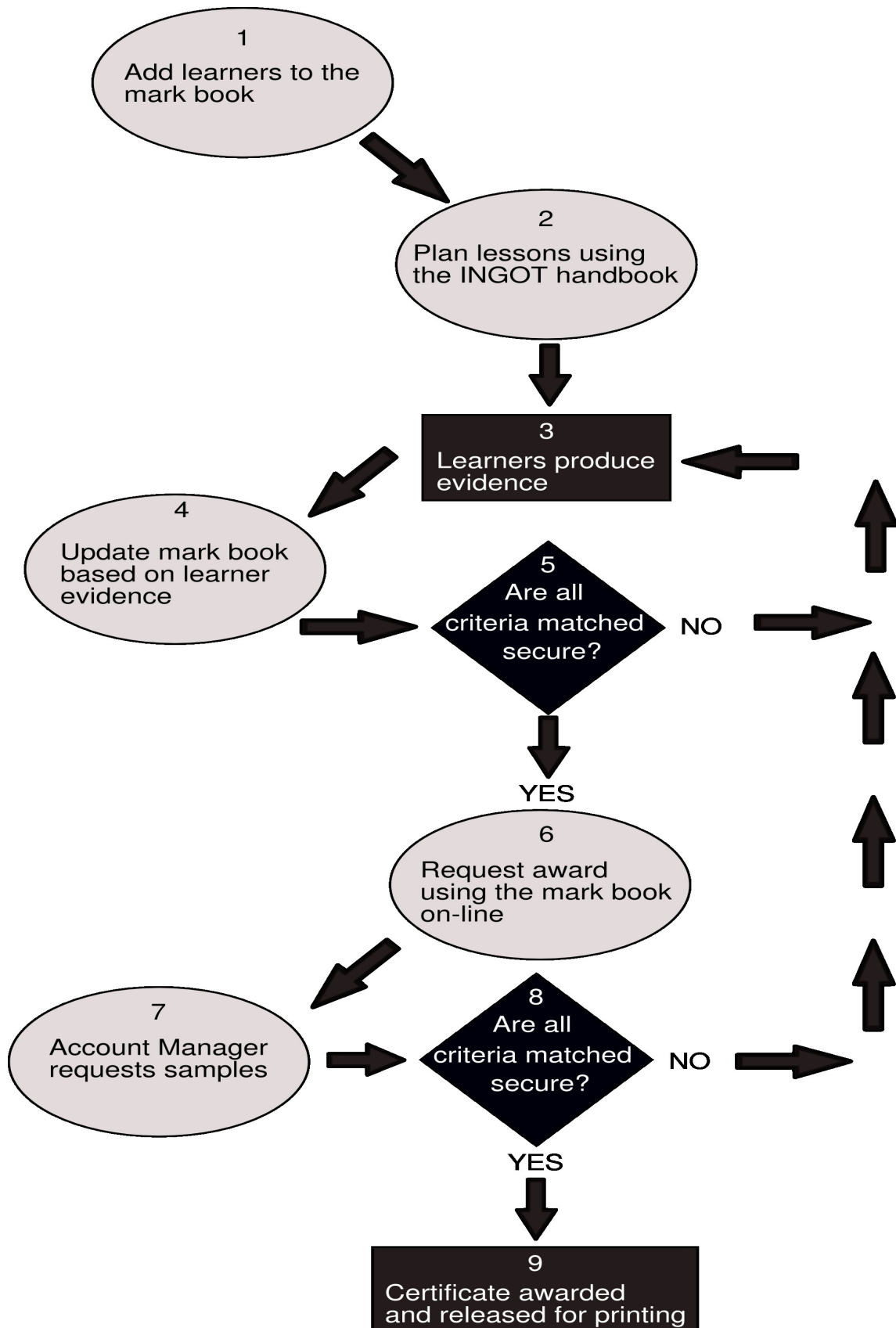
- 2.24.2 The assessor signs an agreement with TLM to uphold standards and there is detailed assessor guidance for each of the criteria including general level descriptions for QCF and Entry Level qualifications. When the learner and assessor agree that the learner is at least secure across all the assessment criteria the assessor will request the award of the unit from TLM. The Account Manager at TLM will check the evidence gathered by the learner and assessor, normally web pages in an e-portfolio or Blog entries, and provide appropriate feedback. If the Account Manager is satisfied that the criteria have been securely met they will authorise the assessor to print the unit certificate directly from the TLM web site where the certificate can also be authenticated.
- 2.24.3 It is important that the demands of assessment procedures are not greater than the demands of the required learning and so the assessor at Bronze (Entry Level) has to be confident to directly match criteria to the candidates' practical skills using the criteria guidance. Evidence can be from schemes of work and lesson plans, photographic evidence, individual learner's files of aspects of their work and day to day recording of activities. Specification of assessment activities should be validated by TLM and carried out under supervision by the assessor. This process is light touch and through dialogue between the assessor and their Account Manager at TLM. It will not have a great bureaucratic overhead.
- 2.24.4 TLM does not rigidly specify how evidence should be gathered as different evidence will suit different circumstances and the range of preferred teaching and learning styles. We want assessment to inform rather than dictate learning methods. However, we do need evidence and so assessors must be able to justify the judgements they have made against the criteria by providing evidence to their Account Manager using specific assessment tasks (ideally transparently integrated into normal work). Gold (Level 2) qualifications need the most thorough treatment as they are more likely to be used for entry to employment or places on more advanced courses.
- 2.24.5 We strongly recommend teaching learners how to record evidence from their work against the assessment criteria at an early stage. This is an important skill to learn for higher order learning and needs to be supported as early as possible. Over time, as assessors and learners become more experienced, assessment will become an integral part of the learning process without being excessively bureaucratic. Apart from saving time for the assessors we are enabling learners to provide evidence of their skills and knowledge direct to interested parties from their web pages and links. Feedback from Account Managers to Assessors means we have a manageable form of continuing professional development that is embedded in practice.

2.25 Unit assessment

- 2.25.1 Organisation of assessment criteria into units is an administrative convenience. It does not mean that units have to be assessed discretely and/or in isolation. A project or lesson can provide evidence for more than one unit. It is simply a matter of providing convincing assessment evidence of the learning outcomes using the assessment criteria. Candidates' capability is confirmed through referencing work to the unit criteria. Exactly how that is done in terms of organisation of schemes of work or individual lesson plans in relations to units and their component criteria is flexible. From the awarding point of view, we are interested only in the outcome. Can the candidate securely demonstrate competence against the criteria? Adding units can increase breadth of study and we provide several different size qualification at each level to reflect this. A bigger qualification can be achieved by adding units to a smaller qualification again maximising the flexibility in the progression routes.

2.26 Summary of the assessment process

2.26.1 The diagram below is taken from the on-line course for assessors and shows a summary of the process for the award of a unit certificate.



- 2.26.2 In multi-unit awards, there are rules governing how the units contribute to the overall qualifications. These rules are explained in the detailed guidance later in this document and they are built into the on-line mark book. In general, there are mandatory units at the level of the qualification and optional units that can be at the qualification level or the level above or below the level of the qualification. This provides more flexibility in supporting progression and matching work to current attainment levels.
- 2.26.3 There is a comprehensive on-line system provided on the learning site supporting learners in self-assessment, provision of evidence on-line and verification of that evidence by assessors. The intention is to automate the management of the assessment process as far as possible removing much of the tedious paper work associated with coursework while preserving the value of dialogue between the assessor and learner. In addition, involving the learner more directly in the assessment process can in itself provide evidence of meeting the criteria eg for using collaborative technologies since they are in a form of collaboration with the assessor using technology to support their learning process. At entry level assessors can still use the system but they are likely to have to provide significant support since providing the evidence in this way is in itself a higher order skill. On the other hand, this prepares the learner for more autonomous and personalised learning later and so it is desirable to develop the appropriate skills early.

2.3 The European Qualifications Framework (EQF)

- 2.3.1 The EQF is a metaframework. It is designed for cross-referencing national frameworks across the EU. The INGOTs are based on the UK Qualifications and Credit Framework QCF which is one of the first national frameworks referenced to the EQF as follows:
- Entry 1 and 2 in the QCF have no EQF reference level
 - Entry 3 in the QCF is referenced to EQF Level 1
 - Level 1 in the QCF is referenced to EQF Level 2
 - Level 2 in the QCF is referenced to EQF Level 3
 - Level 3 in the QCF is referenced to EQF Level 4
- 2.3.2 In this document unless otherwise stated, references to Levels mean UK QCF levels. These are referenced in some places to other qualifications levels such as those employed in the UK National Curriculum. It is unfortunate that there are several different levelled systems but we have to work with these so that there is clear understanding of the value of any particular qualification in different contexts.

2.4 English National Curriculum

- QCF Entry level 1 is broadly equivalent to Level 1 in the English National Curriculum
- QCF Entry Level 2 is broadly equivalent to Level 2 in the English National Curriculum
- QCF Entry Level 3 is broadly equivalent to Level 3 in the English National Curriculum
- QCF Level 1 is broadly equivalent to Levels 4 -5 in the English National Curriculum
- QCF Level 2 is broadly equivalent to Levels 6-10 in the English National Curriculum and Grade B at GCSE

- 2.4.1 There are links from the INGOT QCF based assessment criteria to the English National Curriculum assessment criteria and programmes of study on the learning site. The intention is that the certification programme should fit to learner work in any National Curriculum with minimal modification to existing schemes of work and lesson planning at least in the first instance. From this point, changes to learning and teaching styles can be made in a manageable way without requiring a complete disruption of existing systems. There is no reason not to use learning resources that support other legacy qualifications or general programmes of study at least initially. The main skill requirement is to use internet and associated technologies to present work and to work collaboratively. These skills are required by all school children in England in order to prepare e-portfolios and by implication across the European Union where e-portfolios for all is part of the Lifelong Learning policy.

2.41 Points values

- 2.41.1 In addition to the credit values and levels, governments in some countries eg England assign points to qualifications in order to rank schools. The value of points can be changed by the government with no notice so the examples could be out of date.
- The 13 Credit Level 1 Silver INGOT is equivalent to 20% of the Level 1 threshold for schools in England and provides 25 points.
 - The 16 Credit Level 2 Gold INGOT certificate is equivalent to 20% of the Level 2 threshold for schools in England and provides 46 points making it the equivalent of 1 grade B at GCSE.
 - The 25 Credit Level 2 Gold INGOT certificate is equivalent to 40% of the Level 2 threshold for schools in England and provides 92 points making it the equivalent of 2 grade Bs at GCSE.
 - The 38 Credit Level 2 Gold INGOT diploma is equivalent to 60% of the Level 2 threshold for schools in England and provides 138 points making it equivalent to 3 grade Bs at GCSE.

3. The qualifications summary

3.1 Entry Level (Bronze)

3.11 Entry levels 1, 2 and 3 (Bronze 1, 2 and 3)

1 credit equates to 10 hours of work in both the QCF and EQF

Bronze 1, My First INGOT Entry Level 1 Award in IT Open Systems and Enterprise (ITQ)		
Improving Productivity Using ICT	1 credit	This is a single unit qualification. It is the simplest possible qualification in the QCF providing the lowest possible barrier to entry.
Bronze 2 Entry Level 2 Award in IT Open Systems and Enterprise (ITQ)		
Improving productivity using IT	2 credits	A simple single unit qualification building on Entry 1 and providing support for progression to Entry 3
Bronze 3 Entry Level 3 Award in IT Open Systems and Enterprise (ITQ)		
Improving productivity using IT	3 credits	Providing progression from Entry 2 to the mandatory units at level 1 and level 2
On-line basics	1 credit	Learning some basic skills for the internet

- 3.11.1 Trained assessors match criteria during general learning activities. They witness attainment through direct observation and further evidence is taken from schemes of work, lesson plans, and work samples. The Account Manager checks quality of judgements independently at the annual visit, through dialogue with assessors in the course of normal work and prior to certification. The assessor must supervise candidates and clearly specify the tasks based on the detailed guidance in section 5 below. The Assessor requests an award on behalf of the learner when all criteria are graded "S" or "H" in the on-line mark book. The mark book manages this process on-line. The Account Manager authorises certification when satisfied that this certification is justified based on the available evidence. This authorisation enables the assessor to print a certificate on a TLM INGOT template direct from the web site. The assessor should be prepared to provide evidence to back their judgements on request from the Account Manager.

3.2 Level 1 (Silver)

3.21 Award in IT User Skills in Open Systems and Enterprise (ITQ)

The Silver INGOT Award

Requires 9 credits at least 6 at Level 1 or higher. See the table for the certificate

below for examples of units and credit. Awards do not have any mandatory units so any units can provide the necessary credit.

3.22 Certificate in IT User Skills in Open Systems and Enterprise (ITQ)

The Silver INGOT Certificate

13 credits - 1 credit equates to 10 hours of work

Improving Productivity Using IT	3 credits	This unit is mandatory in all ITQ qualifications. It's about using IT to make tasks more efficient
Web Site Software	3 credits	Developing web pages to present information eg making an e-portfolio, making a small business web site.
IT security	1 credit	Basic e-safety and staying safe on-line
Using collaborative technologies	3 credits	Using IT to enable working with others to learn and create resources
The units above are mandatory An additional unit of at least 3 credits is required. We recommend spreadsheets		
Spreadsheet Software	3 credits	This unit can be replaced by any other ITQ unit but, for example, UK schools need to consider coverage of the NC programmes of study. Up to 3 credits can be counted from Entry level 3 (Bronze 3) units as long as the units are not already covered at a higher level.

Each unit requires all criteria to be assessed at least "S" (secure) in order for the unit to be passed. The assessor should ensure that there is sufficient evidence in the learner's portfolio to justify the designation of "S" to criteria.

3.23 Gathering evidence

3.23.1 Evidence should be drawn at least in part from a small scale enterprise project where the learner works collaboratively with others to investigate something or produce a report or resource useful to others. This should be several hours work drawing on skills from across the units and contributing specifically to the unit "Improving Productivity Using IT". Here are some example project briefs.

- Work in a group to present a web page showing how you use IT in your place of work and compare with how you use IT at home.
- Find some useful software that you can get for free from the internet and make a page to promote it.
- In a group, investigate a shared interest and provide information and Blogs to give different opinions.
- Find a web site that promotes a useful free resource and contribute to the project. (eg Wikipedia)
- Build spreadsheet models with friends to compare findings in a science investigation or a social survey using Google Docs to share the information.

- Take a software application you use at work and compare it with an alternative that you can find for free on the internet. Use a web page to present your findings.
- Build a structure for an e-portfolio and Blog how you did it.

3.23.2 These are examples, they are not mandatory. One project is the minimum and it is perfectly reasonable to plan learning and assessment across several projects or a combination of a collaborative project and work on the learner's own e-portfolio. Always focus on the learning outcomes and assessment criteria associated with the unit, gathering relevant evidence to support a judgement. Can the learner demonstrate that they can master the learning objectives and provide evidence of doing so against the assessment criteria? Use the guidance and general level descriptions to support the judgement. The learner and/or assessor can reference the work to assessment criteria in their accounts on the Learning Web Site at www.theingots.org. This is not mandatory, it is a support system to aid assessors and assessors are free to use their own methods as long as they can make the evidence available easily on request. At level 1, structured support will be required but providing the evidence using digital resources will in itself satisfy many of the criteria so there is a degree of economy in taking this approach.

3.23.3 The assessor should be familiar with the assessment criteria and their interpretation in the local context. For example, links to any required national frameworks, regional education and training strategies. Achieving a pass in the ITQ can then translate to associated national requirements. For example, in the UK National Curriculum, an ITQ silver pass can be mapped to NC Levels 4 and 5 depending on the context. The assessor guidance in the section after this one is designed to put the ITQ assessment criteria into contexts that cover the school curriculum to maximise the reward available to candidates and minimise work for teachers. This could be repeated for other learning contexts such as working in an office, working with particular software or in a particular country's national systems. The guidance is not mandatory, it is to provide examples and contexts to help provide consistency in interpreting levels and to make it easier to make the links between vocational skills training and the wider aims of a school programme of study.

3.23.4 The learner might start off with a project providing Level 1 evidence that is "S" with some "H"s and possibly some "L"s and occasional "S"s at Level 2. This is a solid Level 1 candidate moving to Level 2. In the next project the assessor will monitor the transition and explain the situation to the learner so that they can target level 2 criteria. This might apply across a single unit or more than one unit. There is flexibility for the assessor to tailor the work and assessment to the individual needs of the learner.

3.3 Level 2 (Gold)

3.31 Award in IT User Skills in Open Systems and Enterprise (ITQ)

The Gold Award

Full QCF name is TLM Award in IT User Skills in Open Systems and Enterprise (ITQ)

Requires 10 credits with at least 7 at Level 2 or higher. See the table for the certificate below for examples of units and credit. There is a full list of units and credit values at

3.32 Certificates in IT User Skills in Open Systems and Enterprise (ITQ)

The Gold Certificate (standard size)

Full QCF name is TLM Certificate in IT User Skills in Open Systems and Enterprise (ITQ)

16 credits - 1 credit equates to 10 hours of work

Improving Productivity Using IT	4 credits	This unit is mandatory in all ITQ qualifications. It's about using IT to make tasks more efficient.
Web Site Software	4 credits	Developing web pages to present information eg making an e-portfolio.
Using collaborative technologies	4 credits	Working with other people using technology to create resources.
<p>The units above are mandatory at level 2</p> <p>Units additional to the above need to provide at least 4 more credits this can be credit from level 1 units, level 2 units or level 3 units. This all leads to the same overall certificate but offers scope to differentiate the difficulty and further match routes of progression to individual needs. Achievement is recognised in the unit certificates which can be carried forward to other qualifications.</p>		
Spreadsheet Software	3 credits	This is an example. Level 1 Spreadsheet unit providing 3 credits. A level 2 spreadsheet unit will provide 4 credits on its own.
IT security	1 credit	This is an example. Level 1 security unit providing 1 credit.

Pass - Mandatory units at Level 2 and all units at least at level 1. Minimum of 16 credits. All criteria matched as secure or higher across all units

(46 points for this qualification in the UK, this is equivalent to one grade B at GCSE)

Gold Certificate (Extended)

Full QCF name is TLM Certificate in IT User Skills in Open Systems and Enterprise (Extended) (ITQ)

- 3.32.1 This certificate is an extended version of the standard certificate. It requires the same mandatory units at Level 2 as the standard length certificate but a minimum of 25 credits overall. At least 16 credits must be at level 2 or higher and all credit must be at least at level 1.

3.33 Diploma in IT User Skills in Open Systems and Enterprise (ITQ)

Gold Diploma

Full QCF name is TLM Diploma in IT User Skills in Open Systems and Enterprise (ITQ)

3.33.1 The Diploma further extends the breadth of the Gold INGOT. It requires the same mandatory units at Level 2 as the standard certificate but a minimum of 38 credits overall. At least 20 credits must be at level 2 or higher and all credit must be at least at level 1.

3.33.2 There is a full list of units and credit values at http://theingots.org/community/ITQ_unit_credit

3.34 Gathering evidence

3.34.1 The assessor should ensure that there is sufficient evidence in the learner's portfolio to justify the designation of "L", "S" or "H" to each of the criteria. This evidence should be drawn at least in part from a small scale enterprise project where the learner works collaboratively with others to investigate something or produce a report or resource useful to others. This should be at least 20 hours of work drawing on skills from across the units and contributing specifically to the unit "Improving Productivity Using IT". Longer projects are encouraged and can be used for other qualifications in parallel, for example presenting a practical project in science, mathematics, business or history. A combination of a long project and several shorter projects is also possible. As long as there is appropriate evidence supporting the candidates' capabilities across the relevant criteria, flexibility is encouraged. Here are some example project briefs.

- Work in a group to present a web page showing how you use IT in your place of work and compare with how you use it at home
- Work collaboratively to set up a web site for a local business using Google's "Getting British Business On-line" resources
- Find useful software free from the internet and make a page to promote it
- In a group, investigate a shared interest and provide information and Blogs to give different opinions
- Set up a web site for you and your friends social networking
- Work collaboratively to improve the Javascript games and puzzles linked to the INGOT learning site
- Work collaboratively to add new Javascript games and puzzles linked to the INGOT learning site
- Develop a comprehensive e-portfolio for subjects you are learning at school

3.34.2 Note that these are similar to the Silver project list - this means at the outset learners can be set on either a Silver or Gold path and the outcomes they produce can determine the level. Simply match the criteria and guidance and see whether Silver or Gold is the best fit. There is also the possibility of using Bronze certificates for a gentler start for weaker candidates to keep their interest and motivation. There are just examples, as long as the projects produce evidence that can be matched to the criteria, the context is flexible.

3.34.3 It should be possible to get started with existing schemes of work in schools and develop new activities without major upheaval. We want manageable development and change so we are providing the flexibility needed to move from the current

position to a new position where starting points are likely to be quite varied. The important thing is to get started and plan development incrementally.

4. Planning progression

4.1 The differences between Entry Level, Level 1 and Level 2 performance

4.11 A general description of Bronze (Entry Level) performance

- 4.11.1 Achievement at Entry Level (Bronze) covers a range from very limited practical skills associated with the lowest attainers working under close supervision to basic capability in using common IT tools that will under-pin transition to Level 1. Entry Level is therefore about providing the scaffolding to support progression to formally recognised qualifications for those not yet ready to tackle Level 1 work directly. Entry level certificates provide the confidence to take the next steps rather than preparation for a particular job role.

4.12 A general description of Silver (Level 1) performance

- 4.12.1 Achievement at Level 1 (Silver) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks. It includes taking responsibility for completing tasks and procedures subject to direction or guidance.

4.13 A general description of Gold (Level 2) performance

- 4.13.1 Achievement at Level 2 (Gold) reflects the ability to select and use relevant knowledge, ideas, skills and procedures to complete well-defined tasks and address straight-forward problems. It includes taking responsibility for completing tasks and procedures and exercising autonomy and judgement subject to overall direction or guidance.
- 4.13.2 A key differentiator between levels is the degree of autonomy with which the learner is operating. The assessor must make a judgement about how much support the learner needs and to what extent they can take responsibility for completing tasks without excessive prompting. Using the criteria scale across levels there is some overlap with decision points at "Secure". For example, a learner could be "Lower" for both Silver and Gold but higher for Entry 3. A Silver Learner that is "Higher" will often still be "Lower" for Gold but at some point they will reach secure Gold performance. Assessors should discuss the assessment with learners against each of the criteria so that both agree with the decision to make a judgement of secure. In this way the learner is involved in the process and is more aware of what is expected and how to provide evidence of achievement with increasing confidence as they progress through the levels. Bronze, Silver and Gold can be used together to manage progression. A learner operating consistently higher than Gold should be provided with work towards Level 3 units to ensure that they are not just "marking time". We intend to provide Level 3 qualifications later as demand grows. Level 3 is typically the level of university entrance.
- 4.13.3 There is therefore overlap across the Bronze, Silver and Gold units. Assessors can use the on-line mark book to manage the recording of assessment in any way they

want. They can record assessment in Silver and Gold units for the same learner or completely fill in all Silver units before starting on the Gold or go straight to Gold but come back to Silver if it becomes obvious that the candidate is not ready. What matters is that there is evidence that the learner can meet the criteria recorded given the guidance and general descriptions of the criteria provided. A unit can only be awarded when all the criteria are matched to "Secure" or "Higher". A qualification can only be awarded when the minimum credit at a particular level is achieved. Other than that there is complete flexibility in approach. This enables the learning process to be "personalised" to individual learner needs and for assessment to be matched to any requirements of local systems.

4.13.4 The diagram below illustrates the relationship between Bronze, Silver and Gold performance.

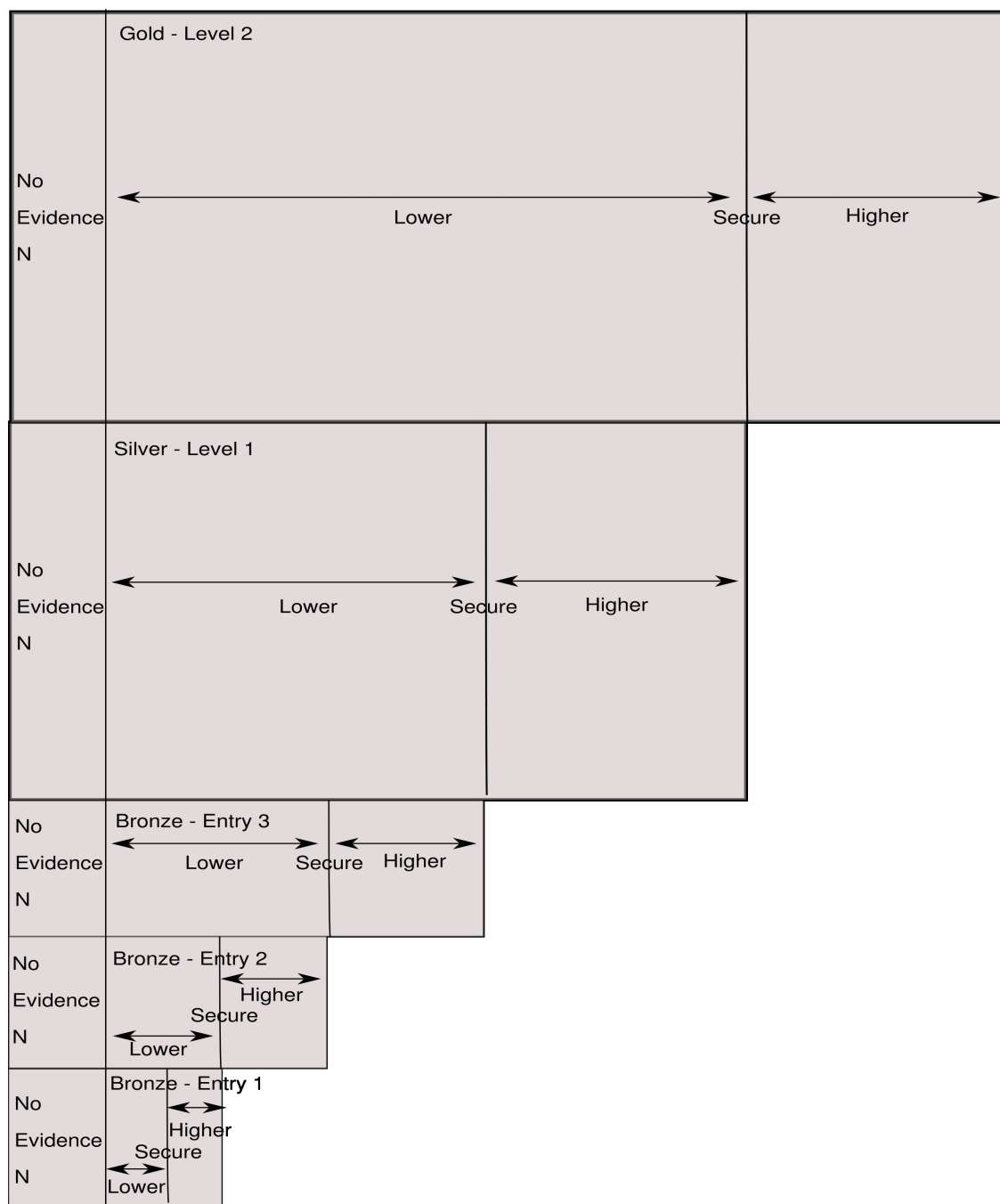


Illustration 1: Assessment and progression

4.2 High attainers

- 4.2.1 We want to encourage high expectation of high attainers particularly in schools. For this reason there is scope for the optional units in the Gold INGOT to be at Level 3 (university entrance).
- 4.2.2 In the 21st Century, vocational learning needs to include preparation for change. With this in mind we recommend the use of the ITQ Specialist Software unit to assess skills that involve the problem solving and analysis. This then supports the confidence to tackle new technologies as they become available. There is support on the learning web site for a focus on Javascript which is complementary to work on web site software and collaborative technologies. For candidates achieving level 3 units, there should be a clear outcome from the unit that is useful to other people. They should achieve a good standard of presentation with accurate use of language and communication. They will have their learning recognised through the award of a Level 3 unit certificate.
- 4.2.3 As an example, producing Javascript puzzles to teach something useful to peers is supported on the learning site from the games link on the resources menu. The code for the games is Open Source in keeping with the INGOT philosophy. It is explained so that a learner can find out how it works and produce further puzzles by re-using and adding to the code already available. Learners can use the examples and documentation on the community learning site so teachers don't need to be programmers themselves. The choice of software is flexible in keeping with the concept of a specialist software unit. We are providing support for Javascript but there are other options such as Greenfoot for teaching Java programming. This might be used for those considering the transition from being an IT User to IT Professional. Here is the definition of Level 3 qualifications.
- 4.2.4 "Achievement at Level 3 reflects the ability to identify and use relevant understanding, methods and skills to complete tasks and address problems that, while well-defined, have a measure of complexity. It includes taking responsibility for initiating and completing tasks and procedures as well as exercising autonomy and judgement within limited parameters. It also reflects awareness of different perspectives or approaches within an area of study or work."
- 4.2.5 The Javascript puzzles provided on the web site are Open Source and so learners are free to take them and adapt them but their work should be their own. In keeping with Level 3 above, they should decide themselves on the purpose and nature of the puzzle they design although they may discuss ideas with their assessor and peers. They should use what they have learnt from the documentation and wider internet sources to produce a working product. They should be able to demonstrate how their work shows that they have met the assessment criteria and their evaluation should suggest different ways in which other people might be able to build on and develop their work. They should document their product so that a peer without a detailed knowledge of programming could learn how it works. They can use the forums to discuss how to do things and contribute to units for Using Collaborative Technologies. This is very much in the style of real projects that are subject to international co-operation.
- 4.2.6 In the UK, if assessors provide evidence that the learner has covered the NC programmes of study as a result of their work using the guidance and links from the assessment criteria, there is the optional TLM Gold INGOT NC certificate. We will consider any proposals for similar certification of other national systems.

5. Detailed guidance - Bronze - Entry Level

This section provides more detailed guidance for the most commonly used units. In order to keep this book to a manageable size we have not provided this detail for all of the 100 plus units in the ITQ framework. Once the understanding of the level of expectation has been gained with the units here, it should be straightforward to transfer this to all other units. This is part of our progressive support for professional development of assessors.

5.1 Entry Level 1 Award in IT Open Systems and Enterprise (ITQ)

There is 1 unit - Improving Productivity using IT. It has a credit value of 1 and is concerned with activities that support the ability to plan, evaluate and improve productivity and efficiency through the use of IT tools and systems.

5.11 Improving Productivity using IT (Unit 1 of 1)

Learning objectives and assessment criteria

1. Plan the use of IT for a task	2. Use IT to complete a practical task
1.1 I can identify the advantages of using IT for the task	2.1 I can use IT to complete a task following identified safe practices
1.2 I can plan how to complete the task using IT	2.2 I can identify and correct errors
1.3 I can identify the main safety and security issues affecting the use of IT for the task	2.3 I can identify any improvements that can be made

5.12 Assessors' guide to interpreting the criteria (Unit 1)

General Information

- My First INGOT is a more friendly name for the qualification also referred to as Bronze 1 or Entry Level 1
- Entry 1 qualifications recognise progress along a continuum that ranges from the most elementary of achievements to beginning to make use of skills, knowledge or understanding that relate to the immediate environment.
- The criteria are designed to allow opportunities to promote numeracy, literacy and social skills as well as ICT capability.
- My First INGOT is designed to promote a wider range of participation, for example, for people with special needs or specific learning difficulties or younger children.
- The specification for the Entry Level 1 certificate provides an outcome framework for assessment and is not intended to dictate any particular context for learning. They are therefore age independent.
- The certificate is aimed at providing early reward to encourage and motivate the learner to take the next step. As such, criteria should be interpreted at the simplest level.
- Literacy and numeracy should not be limiting factors in making this award but the learning process should provide support for their development.

Requirements

- Standards must be confirmed by a trained Bronze Assessor or higher.
- Assessors must as a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org 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.
- There is one unit to complete for the award. 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 TLM Award in IT User Skills at Entry level 1.
- We expect 10 hours of guided study to be under-taken before the certificate is awarded for those new to computers but discretion can be used to take account of prior learning where this is sensible in individual cases. In terms of making the award, what matters is outcomes. Can the candidate securely meet the criteria?

Certificates must be printed on INGOT logo template paper for which there is a small charge per template.

Assessment Method

Assessors can use the criteria to determine levels of prior learning through dialogue with the candidate, direct observation and any other appropriate and relevant evidence. They should interpret the criteria with reference to the general level description and the guidance provided below. They can score each of the criteria "L", "S", or "H". "N" indicates no evidence and is the default start position. "L" indicates some capability but that it is not yet fully secure at the defined level. "S" indicates secure capability, "H" that the candidate can operate beyond the requirements of the criterion. Candidates are required to achieve "S" on all the criteria to pass.

Additional information and guidance

For each of the criteria there is additional guidance to extend assessor background knowledge and to enable the skills to be contextualised in the school curriculum. Much of this guidance goes beyond the requirements for a judgement of "secure" and will enrich the breadth of study where there is sufficient time to cover more than the basic requirements of the certificates. We are also encouraging the use of subjects other than ICT as contexts for learning.

5.13 Expansion of the assessment criteria (Unit 1)

Improving productivity using IT

Learning Objective 1

Plan the use of IT for a task

1.1 I can identify the advantages of using IT for the task

The requirement is for the candidate to identify advantages of using IT in their general

work. They should be able to identify such advantages verbally when guided in more than one context on more than one occasion.

Evidence: direct observation, planning and recording documents from day to day activities.

Additional information and guidance

The candidate should talk about their work and say why they think IT might be useful to the task they are attempting. They should be encouraged to communicate verbally and with help using electronic means. They should be able to identify items from a computer based menu or a display of a range of applications or pieces of information, observing the effect as advantageous to them or others. Varying the context to include more than conventional desktop computers is important to demonstrate the increasing variety of computer technologies that provide advantages to people in every day life, for example, the immediate use of a mobile phone to contact the emergency services on coming across an accident.

1.2 I can plan how to complete the task using IT

The candidate should be provided with a simple plan eg as a sequence of pictures, verbal or text instructions. They should be able to identify this as a plan and work to it with support. They should show that they can follow simple instructions in order to be productive. Planning requires some knowledge of common tools.

Evidence: direct observation, planning records and documentation from day to day activities.

Additional information and guidance

Instructions are most likely to be verbal at this level but they can be written or in pictures or any other method. The candidate should respond positively to help with making simple plans including rough estimates of how long a task might take. They should have some understanding of why planning is useful. They should be able to identify a range of basic computer parts and software applications by name in order to relate plans to the immediate environment and tools.

For those at a basic literacy level take the opportunity to read words, label diagrams or interact with games or puzzles that reinforce the vocabulary associated with computers. Planning should also start considering ownership of information. What information can be used freely and what can't? (PLTS) Anything they produce is free for them to use and they can allow other people to use it but they need permission to use other people's information. On the other hand you might discuss the benefits of agreeing to share resources.

1.3 I can identify the main safety and security issues affecting the use of IT for the task

- Personal data
- Passwords
- Co-operative behaviour

The focus is on 3 key aspects. Of fundamental importance is not giving away details

of their personal data and understanding the need for passwords. Don't reply to unsolicited messages and don't install any software applications without asking a knowledgeable person. Being co-operative with other people is an important aspect of safety when working in groups.

Evidence: from direct observation, willingness to ask about potential risks they have identified.

Additional information and guidance

Sharing digital resources is very easy using the internet so where it is legal it is very powerful for social benefit. (PLTS) This ease of sharing also presents risks because it is just as easy to share bad information or malware (viruses, spyware etc) as good information. The saying "give a brick and get a house" is a good way to visualise the potential. If everyone got a house by simply donating a brick there would be no housing problem. In principle, Wikipedia and You Tube show the practical possibilities this presents. The downside is that some people could donate defective bricks that looked like good ones. It is therefore important to learn how to prevent this from happening. At this stage candidates should know that there is a clear safety issue and that they should refer to more experienced users they know they can trust to check their activities are not potentially dangerous. At this level showing awareness that there are potential problems and being willing to ask rather than take risks is a good starting point.

Learning objective 2

Use IT to complete a practical task

2.1 I can use IT to complete a task following identified safe practices

Any simple and straightforward tasks are enough at this level. They should give due regard to any identified safety issues and instructions (that might be verbal or written).

Evidence: from observation of candidate behaviour and the ability of the candidate to complete simple IT based tasks with due regard to safety when brought to their attention.

Additional information and guidance

The candidate should show that they can follow simple instructions in order to be productive and safe. These are most likely to be verbal instructions at this level. In order to complete tasks some background skills are required. Candidates should be able to identify some common selection devices such as mouse, tracker-ball or touch screen by name so that these can be used in completing the task. For those at a basic literacy level take the opportunity to read words, label diagrams or interact with games or puzzles that reinforce the vocabulary associated with computers.

Suitable tasks include the opportunity to explore a computer simulation of a physical environment. A free on-line puzzle based virtual world is at "I Know that dot com" and there are web based games and puzzles at <http://theingots.org/community/LinkPuzzles>. Numpty physics provides a problem solving environment (PLTS) exploring the effects of gravity on user drawn screen objects. Any of these activities will introduce some very basic ideas about virtual representations of the physical world at the same time as providing suitable tasks to do with support, characterising Entry Level 1. They should demonstrate their capacity

to talk about their work which they can do while engaging in these activities.

The candidate should demonstrate willingness to co-operate. This includes being patient and waiting their turn if the teacher is busy, sharing resources with their peers and being generally helpful. Co-operative attitudes are essential to safe practice and fundamentally important at this level. Occasional lapses are permitted but the candidate should have shown good character for at least a month prior to certification.

2.2 I can identify and correct errors

The requirement is to identify and correct the simplest and most obvious errors, asking for advice in areas of uncertainty.

Evidence: from direct observation and records of day to day activities.

Additional information and guidance

If a technology appears not to be working, the candidate should recognise when devices are switched on eg from an indicator light or the position of a switch. They should realise that if a technological device appears not to be working, it could be simply because it is not switched on. Candidates should be able to use a text editor to identify and correct simple errors. The text should be as simple as possible to ensure that basic literacy is not the limiting factor. Candidates should notice messages that might be prompting the user to take an action. At this level it is good enough to show they have noticed the alert and brought it to a more experienced person's attention, they are not expected to understand what all these messages mean or what action to take at this point.

2.3 I can identify any improvements that can be made

The candidate should make simple comments about plausible actions that could improve their work. These can be verbal and informal at this stage.

Evidence: from direct observation, general planning and records from day to day activities.

Additional information and guidance

In terms of using the keyboard, candidates should know how to use the shift key with one hand and press another key with the other to get a capital letter to start a sentence, or for the first letter of a proper noun. With help they can progress to typing a simple sentence and finish it with a full stop. Encourage the use of two hands and to comment on why this might help improve their work in terms of productivity. While touch typing is not explicitly required, consider that for someone learning to write, learning to type efficiently is probably an easier skill to master and in their life-time they are likely to use a keyboard a lot more than a pen. Good typing posture and style also contributes to improving health and safety. The candidate should be able to make simple adjustments to seating position in relation to the computer, subject to simple prompts. Any recognition or suggestions for improving the way they work can be used in addition to the above factors.

5.2 Entry Level 2 Award in IT Open Systems and Enterprise (ITQ)

There is 1 unit - Improving Productivity using IT. It has a credit value of 2 and builds on the Entry level 1 unit with activities that support the ability to plan, evaluate and improve productivity and efficiency through the use of IT tools and systems.

5.21 Improving Productivity using IT (Unit 1 of 1)

Learning objectives and assessment criteria

1. Plan the use of IT to meet requirements	2. Use IT systems to complete planned tasks
1.1 I can identify the advantages of using IT for the task	2.1 I can use an IT system to complete planned tasks following identified safe practices
1.2 I can plan how to complete the task using appropriate IT systems and software	2.2 I can check that the outcome meets requirements
1.3 I can identify any safety and security issues affecting the use of IT for the task	2.3 I can identify ways to improve the use of IT for the task

5.22 Assessors' guide to interpreting the criteria (Unit 1)

General Information

- The Bronze 2 Award is designed to provide progression from the Entry Level 1 Bronze award to Entry level 3 and as a foundation for Level 1 IT user qualifications.
- Achievement at Entry 2 reflects the ability to make use of skills, knowledge and understanding to carry out simple, familiar tasks and activities with guidance.
- The main difference between Entry 1 and Entry 2 is the ability to start making use of background skills and knowledge without the need for constant help and support.
- The criteria are designed to allow opportunities to promote numeracy, literacy and social skills as well as IT capability.
- The Bronze 2 INGOT is designed to promote a wider range of participation by providing coherent progression from the Entry level 1 to Entry 3 and Full Level 1 qualifications. We want especially to include people with special needs or specific learning difficulties and younger children. Contexts for learning should be chosen appropriately for the learner.

Requirements

- Standards must be confirmed by a trained Bronze Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org 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 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 and learning contexts should be managed accordingly.
- Matching the criteria entitles the candidate to the Award of the TLM Award for IT User skills at Entry level 2.
- We expect at least 20 hours of study to be under-taken before the award is made assuming learners are new to computers but discretion can be used to take account of prior learning where this is sensible in individual cases. In terms of making the award, what matters is outcomes.
- Certificates must be printed on INGOT logo template paper for which there is a small charge per template

Assessment Method

Assessors can use the criteria to determine levels of prior learning through dialogue with the candidate, direct observation and any other appropriate and relevant evidence. They can score each of the criteria L, S, or H. N indicates no evidence and is the default start position. "L" indicates some capability but that it is not yet fully secure at the defined level. "S" indicates secure capability, "H" that the candidate can operate beyond the requirements of the criterion. Candidates are required to achieve "S" on all the criteria to pass.

5.23 Expansion of the assessment criteria (Unit 1)

Improving productivity using IT

Learning objective 1

Plan the use of IT to meet requirements

1.1 I can identify the advantages of using IT for the task

Building on the requirements for Entry 1, the candidate should identify why the use of IT is an advantage in specific tasks often referring to more than one advantage. They should have sufficient experience of completed tasks to identify advantages in several different contexts eg drawing a diagram with software with pre-defined shapes, ease of editing text, making a simple presentation, copying some information several times.

Evidence: direct observation, planning and recording documents from day to day activities.

Additional information and guidance

The main difference between Entry 1 and Entry 2 is that learners will be drawing on greater background experience and they will be able to identify more advantages in more contexts.

1.2 I can plan how to complete the task using appropriate IT systems and software

Building on the requirements for Entry 1, candidates should increase the range of planning activities under guidance and supervision. They should be beginning to make suggestions about planning sequences comprising of simple steps drawing on their growing experience of IT based tasks. Typical planning activities will include asking questions to find useful information, ordering tasks, organising information resources into groups, simple file management.

Evidence: direct observation, planning records and documentation from day to day activities.

Additional information and guidance

They should where possible, be provided with the opportunity to plan their work as part of a group demonstrating co-operative behaviour with peers making contributions without being over-dominant. They will need structured guidance and support. They will ask questions of peers in the planning process and comment on the success of gaining answers.

1.3 I can identify the main safety and security issues affecting the use of IT for the task

The candidate should show capability of following simple sequences of instruction identifying within them elements related to safety and security. When they use IT to communicate with others they should show that they can follow instructions on safe use. When instructed to do something on the grounds of safety they should respond positively in such a way that safety and security will not be compromised. They should know routinely that password security is important and that they should not make personal details available on the internet.

Evidence: from direct observation and lack of any personal details evident in general circulation unless they can explain a clear rationale demonstrating an understanding of the risks. If they can do this they are operating well above this level.

Additional information and guidance

At this level free and unrestricted self-sufficiency is unrealistic but they must participate to learn. Of fundamental importance is not giving away details of their personal data or passwords. Don't reply to unsolicited messages and don't install any software applications without asking a knowledgeable person. Windows applications from arbitrary unsolicited sources on the internet are most dangerous, the most obvious being files with a .exe extension. There are many e-safety sites with free web based games and puzzles related to safety and security. These are recommended as motivating ways of raising awareness of safety and security issues.

Learning Objective 2

Use IT systems to complete planned tasks

2.1 I can use an IT system to complete planned tasks following identified safe practices

The candidate should demonstrate that they can use simple editing and formatting techniques to develop their work. They should behave cooperatively and respect and obey instructions related to safety.

Evidence: direct observation and records of day to day work recorded in files.

Additional information and guidance

Tasks should include deleting and adding words, checking spelling with guidance and making corrections and putting in punctuation marks such as full stops and capital

letters (using the SHIFT key). The work should be in the context of activities that are interesting to the candidate. They should have two hands at the keyboard and sit with good posture. They can use a word processor or other text editor such as that built into web applications. They should be starting to use standard formatting features such as centre, tab, bold with an ability to change font styles and sizes where appropriate. It would be useful to provide candidates with experience of more than one editor such as two different word processors and/or a web page editor to demonstrate common features and to enhance transfer of skills (PLTS). Free examples are OpenOffice.org which can be downloaded and installed from www.openoffice.org and the rich text editor CKEditor, available on the INGOT community web site for creating pages. They should present their ideas through these applications using text pictures, and tables given specific guidance.

2.2 I can check that the outcome meets requirements

The candidate should be able to identify the success of the outcome of their task in relation to the original stated need.

Evidence: from discussion with assessor and where appropriate, written statements.

Additional information and guidance

- Experience of a range of tasks and outcomes is required
- Verbal communication of checking is sufficient at this level but written statements such as "The diagram lets people understand my design" should be encouraged.
- Entering numbers to vary models including simple graphs will allow checking a numerical context.
- Provide candidates with experience of more than one editor such as two different word processors and/or a web page editor to demonstrate common features and to enhance transfer of skills (PLTS).
- Try and avoid giving the message that a single piece of software can achieve everything or that currently popular applications are all they will ever need to use. Give them the opportunity to experiment and try out new and unfamiliar applications.
- Graphs and charts at this level will be limited to appropriate mathematical capability. Simple tables and block graphs produced from sorting and organising simple data to produce simple graphs using a computer. There is a free graph drawing program at <http://nces.ed.gov/nceskids/createagraph/default.aspx> There are also programs to produce graphs from datasets in free spreadsheets and some database software.
- Candidates should be able to draw simple diagrams to illustrate their work and present their ideas in diagrammatic form. These can be simple line drawings. The drawing tools can be part of a larger software application such as a word processor or desktop publisher but best practice would be to use a programme designed for graphic illustration. (Inkscape, free from Inkscape.org is recommended)
- Typical diagrams will include every day objects such as a ball, car, house with labels presenting their ideas in different ways demonstrating that they can use simple editing and formatting techniques in the graphics software.
- Inkscape (www.inkscape.org) is a good example of a free and open source graphics editor that anyone can download and install freely and legally on their

computer. It is more than capable of professional work but it is easy enough for beginners to use.

- They should be beginning to realise that the format of the file used for their drawing matters because of possible restrictions in opening and editing their work later eg in a different program (PLTS).

Inkscape produces and edits .svg (scalable vector graphics) the ISO web standard and can export to the .png format portable network graphics which is the accepted standard for displaying diagrams in web pages. Many utilities and programs can convert to .jpg from png and svg. At this level candidates are not expected to know much detail about graphics formats but assessors should constantly reinforce the appropriate use of .svg, .png and .jpg as the three most important graphic standards in use.

More detail - graphics formats

Vector graphics formats have taken a long time to standardise because they are internally complex and there have been several proprietary competing interests in maintaining control of particular markets. These persist in some specialist areas such as Engineering and CAD. Vectors graphic files store diagrams as mathematical formulae rather than as multicoloured dots as is the case with formats such as .jpg, .png and .gif. The advantage is that files can be very small and images can be scaled infinitely without the size of the data file growing or the image becoming "grainy" with jagged lines and curves when increased in size.

More details in Wikipedia at http://en.wikipedia.org/wiki/Vector_graphics and http://en.wikipedia.org/wiki/Scalable_Vector_Graphics

Vector applications are ideal for drawing diagrams because drawings can be made up from grouped objects. They are no good at all for editing photographs even though they can display them. So a simple rule is that if it is a diagram, logo or line-art, create and store the original as .svg and produce .png or .jpg images from the original to display in a web page. If the image is a photograph or scan, .jpg is likely to be the most appropriate format. So why not use svg graphics directly in the web page? Simply because not all browsers support the standard at the time of writing but they certainly will in the future. A lot of people still use older versions of Internet Explorer that need additional plug-ins to display .svg. Until competition from Firefox, Opera, Apple's Safari and Google Chrome emerged, Microsoft had been slow to support open standards preferring to try and maintain dominant market share by defining and patenting its own proprietary standards. This is a clear example of why open standards are important for end users. Internet Explorer is the odd one out in terms of support for this standard but its dominant market share has made it very slow to change. There is an argument that open standards can stifle innovation but equally, monopolies based on closed proprietary standards can lead to control that is disinterested in what is useful to end users. HTML 5 is a new open standard that promises to further extend the open standard concept to aspects of video and other media.

Since graphics are the next most commonly used information format after text, some understanding of the basics of graphics technologies is important if the most efficient and effective practice is to be supported. This is rather like a knowledge of spelling and punctuation rules helping overall literacy. While it might be considered unnecessary for beginners to make distinctions, it is better to get started with the best tools for the job so that choosing the right tools is a natural part of work rather than needing to be specifically taught later.

2.3 I can identify ways to improve the use of IT for the task

Candidates should be able to carry out a simple review of the tools they used in completing their task stating things that were easy or difficult and making simple comparisons.

Evidence: from oral communication, files and examples of day to day work.

Additional information and guidance

They should say how they used ICT to develop their work and comment on the success of their work in general terms. Some of this might be oral and some written. At this level written communication is likely to be a limit and so evidence from oral communication is important too. Candidates should be provided with structured support to make simple evaluations at various stages of the work. Classifying simple and obvious strengths and weaknesses and relating these to identifying improvements is sufficient at this stage. Structured guidance such as a table, a list of strengths and weaknesses with blanks to fill in or a task to choose from a list and put strengths into a strengths column and weaknesses into a weaknesses column related to a specific application. This could be on paper or dragging words to table cells in a drawing program such as Inkscape or in a web page. When reviewing work, the candidate should be able to answer questions like "What type of software would you use to write a letter" with word processor rather than a particular brand name. The idea is to encourage learners to think generically because this is a better foundation for dealing with future change. - (PLTS) They should be able to identify simple errors in text, numbers and similar data and correct them. Candidates should be beginning to show that they can consider informed choices when using ICT even though their level of experience will limit the effectiveness of choice. They might identify ease of use, cost, fitness for purpose or any other significant attribute identified as an improvement. At this level they will need guidance and clear simple information such as "this application is free and legal for you to download at home" or "this software is more likely to attract a virus" or "this software is easier to use for this particular task or is good enough for this particular task". Use of Inkscape at home for free might enable more practice that would improve future outcomes. Watching a You Tube video showing them how to use the software for different tasks, more thorough checking of finished work, discussing work with peers are all reasonable things that could be identified.

5.3 Entry Level 3 Award in IT Open Systems and Enterprise (ITQ)

There are 2 units in the Entry Level 3 Award. Improving Productivity using IT with a credit value of 3 is a mandatory unit. It builds on the corresponding unit at Entry 2 with activities that support the ability to plan, evaluate and improve productivity and efficiency through the use of IT tools and systems. The learner can choose any other Entry 3 Unit from the ITQ framework at <http://itq.e-skills.com/Framework/ITQ-Units-and-Credit-Values/>, Look in the column E3. An example is On-line Basics. Ask your Account Manger for further details. In total, the qualification has a minimum credit value of 4 corresponding to 40 hours of work but additional units can be awarded to a maximum of 8 credits.

5.31 Improving Productivity using IT (Unit 1 of 2)

Learning objectives and assessment criteria

1. Plan the use of appropriate IT systems and software to meet requirements	2. Use IT systems and software to complete planned tasks	3. Review the selection and use of IT systems and software for tasks
1.1 I can identify the purpose for using IT	2.1 I can use pre-set routines to improve productivity	3.1 I can review the outcomes of the completed task
1.2 I can plan how to carry out the task using IT	2.2 I can use IT to complete planned tasks	3.2 I can identify the strengths and weaknesses of IT systems and software used for the task
1.3 I can select appropriate IT systems and software applications		3.3 I can identify ways to improve the outcomes of the completed task
1.4 I can identify the main legal and other constraints affecting the use of the IT system and software		

5.32 Assessors' guide to interpreting the criteria (Unit 1)

General Information

- Bronze 3 is the same as Entry Level 3 in the Qualification and Credit Framework. It can be mapped to the National Curriculum at levels 3 and 4 and the EQF at Level 1.
- Achievement at Entry 3 reflects the ability to make use of skills, knowledge and understanding to carry out structured tasks and activities in familiar contexts, with appropriate guidance where needed.
- The criteria are designed to enable opportunities to promote numeracy, literacy and social skills as well as ICT capability.
- Bronze 3 is designed to promote a wider range of participation by providing a progression pathway from Bronze 2 to Level 1 in the QCF and help motivate accelerated progress from National Curriculum level 3 to levels 4 and 5.
- The specification for the Entry Level 3 certificate provides an outcome framework for assessment and is not intended to dictate any particular context for learning so that it is independent of age.

Requirements

- Standards must be confirmed by a trained Bronze Assessor or higher .
- Assessors must as a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org 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 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 and learning contexts should be chosen accordingly.

- Completing the criteria for each unit entitles the candidate to the award of a unit certificate. If the mandatory unit and at least one additional unit are completed successfully, the candidate will be awarded the Entry Level 3 Award for IT Users.
- We expect at least 10 hours of study to be under-taken for each credit for an average candidate at this level. Discretion can be used to take account of prior learning where this is sensible in individual cases. In terms of making the award, what matters is outcomes.
- Certificates must be printed on INGOT logo template paper for which there is a small charge per template.

Assessment Method

Assessors can use the criteria to determine levels of prior learning through dialogue with the candidate, direct observation and any other appropriate and relevant evidence. They can score each of the criteria L, S, or H. N indicates no evidence and is the default start position. "L" indicates some capability but that it is not yet fully secure at the defined level. "S" indicates secure capability, "H" that the candidate can operate beyond the requirements of the criterion. Candidates are required to achieve "S" on all the criteria to pass.

5.33 Expansion of the assessment criteria (Unit 1)

Learning Objective 1

Plan the use of appropriate IT systems and software to meet requirements

1.1 I can identify the purpose for using IT

The candidate should show that they appreciate specific purposes for using IT in the broader aspects of their work. This could be identifying the purpose of their own devised tasks or those provided by others. For example, they might identify the use of a web page as having the purpose of making their work more widely available. They might say that it is easier to build on existing resources to produce something useful rather than having to start right from the beginning. They should build on experience of completed tasks to suggest situations where IT might have purpose in future work.

Evidence: planning and recording documents from day to day activities.

Additional information and guidance

The candidate should engage in discussions saying why they think IT might be useful in a range of situations going beyond desktop computers and including telephones and some of the increasing variety of digital technologies that can enhance the quality of life or efficiency of the work place.

The main difference between Entry 2 and Entry 3 is that learners will be identifying more general purpose in using IT from the characteristics that make use compelling. Ease of copying and distributing information, building on other people's work, improved presentation, ease of development and editing, making applications interactive and dependent on user input eg interactive on-line puzzles and games. For example, the on-line game of pairs at <http://theingots.org/community/LinkPuzzles> can automatically keep score whereas a conventional card based version could not.

Developing a new game with different subject matter is simply a matter of changing the pictures and there is no manufacturing cost involved in many people playing the games. A disadvantage is the need for a computer.

1.2 I can plan how to carry out the task using IT

Candidates should plan solutions that combine and refine different forms of information. As an example, this could be a simple plan to demonstrate how to tie a reef knot. They might need a digital camera to photograph the steps, an image processing application such as the GIMP to edit and process the images and a web page on an e-portfolio system to display the picture together with text explaining what to do and/or sound files with a spoken description. A simple plan identifying what is needed and the steps in a simple format following similar structure provided in other familiar plans is sufficient in line with the general descriptions of Entry Level 3 qualifications in the QCF.

Evidence: from files and examples of day to day work.

Additional information and guidance

Structured support through provision of models and exemplars to follow is advised at Entry level. Simple planning patterns should include basic resources required (see 1.3 below), what needs to be done with them and an estimate of the time particular steps in the task are likely to take. Planning can be a group activity but this will require greater support. It should be clear in such group activities that individuals produce evidence that show they have the ability to plan with structured guidance and are not just leaving things to their peers.

1.3 I can select appropriate IT systems and software applications

In order to select appropriate IT systems and software applications candidates need to have had some experience of the ways in which these tools can support their tasks and their strengths and weaknesses. Candidates should show that they can make selections of at least a limited number of tools rationally and independently.

Evidence: from direct observation and examples of day to day work.

Additional information and guidance

The rise of free and open resources available from the internet is one of the biggest changes taking place in the IT industry. Some software is free to use and other software requires payment for licenses. Microsoft Office and OpenOffice.org are prominent examples. Microsoft office requires license payments and OpenOffice.org does not. Some applications are cross-platform meaning they can run on different computer operating systems and this is important in providing choice. Good examples are the Firefox web browser, Inkscape and GIMP graphics programs, OpenOffice.org and Audacity. The Google Android Smartphone uses Open Source software to encourage developers to build their own phones whereas the Apple i-phone is tightly controlled by Apple. The Windows operating system is the biggest target for viruses and spyware but runs a greater range of software applications than any other operating system. There are many considerations beyond simple function.

The reasons for selecting IT systems and software could be based on cost, availability, how well they support the task, vulnerability to viruses and malware or for ethical reasons related to open standards. At this level it is sufficient that candidates

are aware of a limited range of reasons to choose particular systems and software but assessors should constantly strive to broaden their knowledge and understanding as this will enable improve future decision making.

1.4 I can identify the main legal and other constraints affecting the use of the IT system and software

There are three key considerations. Copyright and associated licensing, safety and security and technical constraints. The candidate should understand that just because it is easy to copy and distribute digital information it is not necessarily legal. On the other hand, licensing work to be copied freely might mean it gets much wider take up. At Entry level candidates still need close monitoring with regard to safety and security. They will not yet have sufficient experience to be autonomous, safe and secure when working on-line. They should understand password basics, the need for cooperative and sensible behaviour and the need to inform a more experienced person if they come across anything that appears to be criminal or unacceptable behaviour when on-line.

Evidence: observation of day to day work and behaviour. Files, internal testing and day to day recording.

Additional information and guidance

Copyright

Copyright is the ownership of work and everyone originating work automatically owns its copyright and can determine how the work is used. That includes the candidate! Licensing is used by copyright holders to say how their work can be used and details of any constraints they want to impose. Candidates should realise that even if it is technically easy to share information eg using file-sharing software it might not be legal and the onus is on them to check. The internet has massively changed commercial conventional wisdom on copyright with increasing numbers of providers actively encouraging free use and copying in sharp contrast with older views of protecting intellectual property at all costs. There is even the term copyleft emphasising work that is there to be shared. Wikipedia is a good example.

Safety

Safety and security are important constraints and at this level candidates will need to be closely monitored and advised. The candidate should identify ways to keep themselves safe when using ICT. For example, recognise loose wires to trip over, monitors perched close to falling off tables, bad seating and lighting and other obvious physical hazards. Candidates should be becoming increasingly self-sufficient in ensuring a comfortable and productive working environment. They should understand that they should not give out their personal details on the internet. They should be able to recognise an insecure password and change it for a secure one that is easy for them to remember. (iCRMPW100% is a secure password - i Can remember my password 100%) They should be able to write a list of risks associated with Internet communications and provide ways of minimising them. This could be filling in cells in a pre-constructed table. Candidates should be becoming increasingly self-motivated and willing to work with others promoting safety. Working collaboratively and safely is a high priority.

Candidates should associate the term "malware" with harmful software. They should know that computers running the Windows operating system are a particularly attractive target for malware. They should be aware of the danger of installing

software from unknown sources and that e-mail attachments are a very common way of distributing malware. They should also know that clicking on web site advertisements and downloading what might be claimed to be a free useful tool might be malware. Candidates should recognise that information on web sites can be very misleading (in reality this can also be true of the mainstream press, particularly on issues of health and science.)

<http://descy.50megs.com/descy/webcred/webcred/dhmo.html>. This web site is basically making an emotive case that a harmful chemical should be banned. It is in fact water. More serious web site issues are when a site is set up to look like eg a bank web site so you put in your credit card details. Candidates should realise that the web address is unique and for any serious on-line shopping etc they should always check that the web address is correct rather than what the site looks like.

Technical

Even on up to date systems technical constraints need to be considered. Sizes of files or databases can make backing up and transferring data difficult. Incompatibility between data formats can make sharing information difficult. In general the better understanding they have of technical principles the less likely they are to have problems with information technology systems.

Learning Objective 2

Use IT systems and software to complete planned tasks

2.1 I can use pre-set routines to improve productivity

Building on the requirements for Entry Level 2, candidates should be using an increasing number of keyboard short cuts such as CTRL C to copy and CTRL V to paste. CTRL Z to undo the last operation. They should appreciate that commonly used sequences can be automated and that using them will improve their productivity.

Evidence: direct observation of operating behaviour and records of day to day work recorded in files.

Additional information and guidance

Building on work at Entry 2, providing opportunities to write simple programs will help the learner understand how pre-set routines can be formulated. Other examples include formulae in spreadsheets and recording simple keyboard macros. A formula summing numbers in the column of a spreadsheet is a simple pre-set routine such that any numbers entered into that column in a certain range will produce a sum. Linking a column of numbers to produce a graph or chart is automating the graph drawing process using a pre-set routine or routines. Macro recorders will record a sequence of keyboard or mouse events, for example filling in a form that has to have the same data put in. Web browsers do this type of thing when they remember your user name and password. The important thing is for the candidate to learn appropriate ways of improving productivity through use of a range of pre-set routines.

2.2 I can use IT to complete planned tasks

Candidates should build on Entry Level 2 work demonstrating that they can use a range of ICT tools and techniques to refine and develop information needed to complete their task. This could be preparing an image to be displayed on a web page, editing information to make it simpler or providing a diagram for an information

poster. The learner might use audio software to refine the file when creating a podcast. Audacity is a free and open source application suitable for this.

Candidates should be able to format information so that it is clearly and efficiently presented. At this level, it is sufficient to provide text and graphics that work together.

Evidence: direct observation of operating behaviour and records of day to day work recorded in files.

Additional information and guidance

Suggested activities for schools

It is a good idea to vary the tasks beyond using word processing and presentation software which, although popular, encourage a limited view of IT tools. An example task using the internet for research might be to find out what the following words have in common, Jazz, Chimpanzee, Cola and Tango. First they might check they know what each means using an on-line dictionary, selecting the appropriate descriptions and definitions of the word. Then they might search for each or maybe pairs on the internet. If they search Wikipedia (eventually they might need pointing in the right direction) they will find that all these words have an origin in Africa. This should lead them to realise that languages are made up from words from all over the world. At this level they will need some guidance in where and how to make enquiries but they should demonstrate some capability of making reasonable suggestions about the types of enquiries to use even if they are not always successful. Working collaboratively in groups with peer review is encouraged. Evidence can be provided in lesson plans and schemes of work and learners recording search outcomes eg in an e-portfolio page.

Candidates should solve simple problems by devising and refining sequences of instructions in the form of simple computer programs, scripts or macros. The web site "I know that" provides progressively difficult puzzles that are made from sequencing instructions similar to the logo programming language but using visual blocks for move forward 100 or turn through an angle so that syntax is not a barrier. At this level they should be able to show clear progression from the Entry 2 requirements with sufficient scope to vary the instructions to see which combination works best. Other methods will include controlling buggies, floor turtles or similar devices.

Candidates should demonstrate that they can open and save files in the process of collecting, storing and retrieving data. They should have the opportunity to take a simple data set and process it. This could be rainfall per month in inches converted in a spread sheet to cm and then used to produce a bar chart. In such a case at this level the conversion formula would be provided and guidance given on how to use it. The candidate would organise the data in a row of the sheet so that the conversion formula produced the result in another row from which the chart would be generated. Simple survey data and data from science investigations lends itself to this type of activity. For example, does a cup of hot coffee cool quicker to room temperature if you put cold milk in immediately or if you wait 5 minutes and then add the milk? The data might be measured using a conventional thermometer and stop watch or using a data logger. The results recorded in a prepared table and then the findings presented from them. Another question might be: What is the average age of a group of people? Collect ages in a spreadsheet and then use the average function. Candidates should show how they organise and process data for a purpose. A more sophisticated solution would be to use on-line collaborative tools such as Google Docs.

Candidates should demonstrate that they can input variables into ICT-based models

or simulations to answer questions. This does not have to be confined to spreadsheets. It could be inputting a range of different sized rocks into the "Numpty Physics" model or starting a puzzle with different inputs. Ideally candidates should experience a range of different models. At least some of the questions can be of the type "what if" rather than simply closed absolutes.

Candidates should be able to use models to explore relationships between inputs and outputs and explain how the models work. An example would be a simple spreadsheet model of multiplication tables where inputting a number seeds the complete table. In general, they should appreciate that an input is processed by the computer to produce an output. Other examples will include input to games and puzzles resulting in outputs. The explanation of the model can be oral or in writing.

In the process of collecting, storing and retrieving data, candidates should demonstrate that they can transfer data between storage devices. This might be using a USB memory pen drive to transfer large files between computers. They should appreciate that using networks to transfer data is often a better option because the security is likely to be better but in some circumstances, for example, backing up large files, portable storage has some advantages. It's reasonable to use a network to transfer data say from a server to a local hard drive as an example of transferring data between storage devices.

Candidates should present information in different forms suited to purpose. This could be an SMS message in SMS shorthand to notify someone of an event, a word processed page to write a story or a blog entry describing their day. In laying out text, they should **not** use the space bar in a word processor to indent and centre text and they should know that the only time the space bar should be used is to separate two words. All other layout should be done without spaces because reformatting at a later date can completely destroy the appearance of the work if there are spaces in the layout. Candidates should be guided to write formally when it is appropriate, eg in a report or story and informally when that is appropriate eg in a SMS message or forum.

Learning Objective 3

Review the selection and use of IT systems and software for tasks

3.1 I can review the outcomes of the completed task

Candidates should be able to make comments on their solution to a simple set task or problem. This can be verbal or in writing. The task might be a step in a more complex task. At this level it is a simple matter of communicating how successful the outcomes were compared to the intentions and comments on the quality of what they have produced.

Evidence: from oral communication, files and examples of day to day work.

Additional information and guidance

An example project might be to present a poster to highlight safety issues when using the internet. They could review the outcomes in terms of comments from peers on how effective they thought it would be, how visually attractive the design turned out to be. Were words correctly spelled? Was clip art used effectively? Were the tools available suitable for the job? Did they have any choice in what tools to use?

3.2 I can identify the strengths and weaknesses of the IT systems and software used for the task

Candidates should build on the requirements for Entry 2 with less support required making their own simple lists of strengths and weaknesses. There might be different tools available eg for use at home or use at school or their place of work and their list might reflect this.

Evidence: recorded evaluation of work in web pages or files listing simple sets of strengths and weaknesses.

Additional information and guidance

Historically most general productivity tools have required expensive licenses which meant that it was not easy to provide the same software for use in different places. There is then an issue of inclusion and a potential economic divide. With the rise of Open Source software this is changing and for the most part all the basic productivity tools most people need are available free of licensing costs. This is an opportunity to enrich the range of tools used and to discuss the use of IT at home and in the work place, the advantages of having the same tools available in both places, the ethics of using high priced products that force people to buy them too for the sake of compatibility, the legal overhead in managing software licenses as well as the specific technical efficiency of the tools themselves. At this level candidates should simply be able to identify broad strengths and weaknesses and begin to consider the relative importance of them.

3.3 I can identify ways to improve the outcomes of the completed task

Candidates should show that they can identify ways of improving their work with a focus on the intended outcomes stated in their planning.

Evidence: observations of behaviour and interaction with peers. Recorded ways of improving specific examples of their work.

Additional information and guidance

Candidates should build on their increasing experience in order to make better decisions about ways of improving their work. The candidates co-operative behaviour should extend to collaborating with peers to improve identified weaknesses and to begin to set their own targets for improvement. In addition to identifying basic technical errors they should be beginning to see the "bigger picture" with awareness of the impact of their work on themselves and others. Their confidence in making informed choices should be increasing as they understand the steps needed to complete familiar structured tasks. They should be able to comment on whether or not they are active participants in collaborative work and whether they should increase or decrease their input.

5.34 On-line basics (Unit 2 example from options)

Learning objectives and assessment criteria

1. Use an on-line IT system to meet needs	2. Search for and use internet-based information	3. Use e-mail to communicate and exchange information
1.1 I can start an on-line IT system or application and close it down appropriately when finished	2.1 I can choose appropriate sources of IT-based information to meet needs	3.1 I can open and read e-mail messages
1.2 I can set and use a password where necessary	2.2 I can use browser software to navigate web pages and find required information	3.2 I can create and send e-mail messages
1.3 I can work safely and responsibly online	2.3 I can select and use information which is reliable and fit for purpose	3.3 I can enter and edit text to meet needs

5.35 Assessors' guide to interpreting the criteria (Unit 2)

General Information

- Bronze 3 is the same as Entry Level 3 in the Qualification Credit Framework. It can be mapped to the National Curriculum at levels 3 and 4 and the EQF at Level 1.
- Achievement at Entry 3 reflects the ability to make use of skills, knowledge and understanding to carry out structured tasks and activities in familiar contexts, with appropriate guidance where needed.
- The criteria are designed to enable opportunities to promote numeracy, literacy and social skills as well as ICT capability.
- Bronze 3 is designed to promote a wider range of participation by providing a progression pathway from Bronze 2 to Level 1 in the QCF and help motivate accelerated progress from National Curriculum level 3 to levels 4 and 5.
- The specification for the Entry Level 3 certificate provides an outcome framework for assessment and is not intended to dictate any particular context for learning so that it is independent of age.

Requirements

- Standards must be confirmed by a trained Bronze Assessor or higher.
- Assessors must as a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org 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 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 and learning contexts should be chosen accordingly.
- Completing the criteria for each unit entitles the candidate to the award of a

unit certificate. If the mandatory unit and at least one additional unit are completed successfully, the candidate will be awarded the Entry Level 3 Award for IT Users.

- We expect at least 10 hours of study to be under-taken for each credit for an average candidate at this level. Discretion can be used to take account of prior learning where this is sensible in individual cases. In terms of making the award, what matters is outcomes.
- Certificates must be printed on INGOT logo template paper for which there is a small charge per template.

Assessment Method

Assessors can use the criteria to determine levels of prior learning through dialogue with the candidate, direct observation and any other appropriate and relevant evidence. They can score each of the criteria L, S, or H. N indicates no evidence and is the default start position. "L" indicates some capability but that it is not yet fully secure at the defined level. "S" indicates secure capability, "H" that the candidate can operate beyond the requirements of the criterion. Candidates are required to achieve "S" on all the criteria to pass.

5.36 Expansion of the assessment criteria (Unit 2)

Learning Objective 1

Use an online IT system to meet needs

1.1 I can start an on-line IT system or application and close it down appropriately when finished

The candidate should demonstrate that they can start up their computer, login and start up a web browser.

Evidence: direct observation.

1.2 I can set and use a password where necessary

The candidate should demonstrate that they can choose a secure and easy to remember password and keep it to themselves.

Evidence: candidates have a secure password for their accounts

Additional information and guidance

Secure passwords should not be simply words that can be looked up in a dictionary. These are very vulnerable to dictionary attacks. A good password will have upper and lower case letters, numbers and characters but should also be easy to remember. eg Ian100%ok or 50%Chimp or 150\$Up or You&me2, twoX£3=£6. Six characters or more is probably good enough at this stage but the more characters the stronger the password will be. Candidates should also be aware that they should not share their password with other people under any circumstances. If someone uses their password to hack into a system they will get the blame and there will be no comeback.

1.3 I can work safely and responsibly on-line

The candidate should identify ways they can keep themselves safe when on-line

including reference to known more experienced users.

Evidence: from observation and questioning by the assessor, documentary evidence in files of web pages.

Additional information and guidance

At this level candidates will need to be closely monitored and advised when working on-line. For example, recognise that information can be misleading and that they should not give out their personal details on the internet. People might not be who they say they are. They should be able to recognise an insecure password and change it for a secure one that is easy for them to remember. They should be able to write a list of risks associated with Internet communications and provide ways of minimising them. Identified risks could be recorded by filling in cells in a pre-constructed table. Also refer to safety aspects of unit 1, 1.4 above.

Learning objective 2

Search for and use internet-based information

2.1 I can choose appropriate sources of IT-based information to meet needs

Candidates should plan simple internet searches that will follow straightforward lines of enquiry using search criteria.

Evidence: from recording their findings and presenting outcomes in an e-portfolio page or file in day to day records of their work.

Additional information and guidance

Searches could involve finding a place on a map such as a hotel by knowing its name and approximate location. Candidates should be provided with guidance in order to familiarise themselves with a range of possible sources such as on-line maps, wikipedia, a limited range of suitable sources of information to support a task. These could include a person knowledgeable in ICT, relevant forums, mailing lists or discussion groups and web sites. The candidate should show that they can make choices that lead to useful information to meet the needs of the task.

2.2 I can use browser software to navigate web pages and find required information

The candidate should be able to use a web browser effectively and safely subject to supervision.

Evidence: direct observation and the outcomes of searches and finding information

Additional information and guidance

They should where possible try more than one browser to see how similar they are and any differences. (eg use a browser on a smartphone) This will help promote transferable skills and independence of particular applications.

2.3 I can select and use information which is reliable and fit for purpose

Candidates should be able to use appropriate search criteria to find relevant information, and check its plausibility and usefulness. This could be linked to science

particularly with regard to alternative medicine, diet and nutrition where commercial interests lead at best to exaggeration and at worst blatant lies and deliberate attempts to mislead. It can be relatively difficult to find information that is obviously incorrect at simple levels and so support will be needed to develop suitable searches and interpret them. At this stage we simply need to identify simple uncontroversial information such as scientific facts in Wikipedia or information from trusted learning sites and be aware that some sites are not reliable and the information won't be fit for purpose.

Evidence: from recording their findings and presenting outcomes in an e-portfolio page or file in day to day records of their work.

Additional information and guidance

In principle, they should be beginning to appreciate that information is often presented with bias in order to serve a particular interest so they can not just take anything on face value. (Having said this, there is nothing new in this, newspapers have a long history of putting circulation numbers before truth well before the internet.) They should be able to say when searches are leading to useless information. If they search for "who was the king of England 1000 years ago?" they should be guided to use at least two internet sources so they have a check of their result. They might judge the information to be useful in answering the question but not very useful in its particular value to themselves in isolation. They might also conclude that finding eg that there are easily available lists of all the English Kings and Queens more useful than the specific information they were asked to find. At this level significant guidance will be needed so that searches are safe and productive. The key point is for the candidate to be able to select and use the information knowing it is fit for purpose and this will be in very simple cases in this situation.

Learning objective 3

Use e-mail to communicate and exchange information

3.1 I can open and read e-mail messages

The candidate should be able to safely open and read e-mail showing an understanding of the dangers of malicious file attachments. They should know the term "spam" meaning unsolicited e-mail and that some spam is simply advertising whereas other spam is trying to trick them and get money from them.

Evidence: from observation of safe practice by the assessor, internally set tests.

Additional information and guidance

E-mails starting "Dear friend", "congratulations you have won...", or "please go to this web site to change your details" are always fraudulent. Never pay any money or arrange to meet someone on the strength of an unsolicited e-mail no matter how good the offer might seem. Never install attachments from e-mails particularly on Windows computers. If in doubt ask someone you know is an expert. (One advantage of using the Linux operating system is that it won't run windows applications so any malicious programmes written to damage Windows (most of them) will be entirely ineffective on Linux.)

3.2 I can create and send e-mail messages

The candidate should be able to create and send e-mail.

Evidence: from direct observation and simple internal testing. Account managers might ask for selected candidates to send them an e-mail as part of the external QA process.

Additional information and guidance

They should understand that sending attachments in proprietary file formats runs the risk of the recipient not being able to open them. Expecting the receiver to have bought software licenses is a problem that can make the "digital divide" worse. Where possible use open file formats such as HTML, text, .jpg, .png, .svg. It is always worth considering putting information on a web page and making a link to it from an e-mail rather than sending a file attachment. The reason is that any updates to the information will be available to anyone that has access to it whereas once a file attachment is sent it is difficult to update and link to other information. Relatively little information needs to be printed in hard copy so there tends to be an over use of pdf attachments, a format designed for printing and a legacy of the pre-web age. In principle, any HTML web page can be printed if it needs to be, however, reduced printing to paper is better for the environment. With the increase in the use of e-books, the need for paper printed versions of information will reduce but social acceptance of this is likely to lag significantly behind the technological changes.

3.3 I can enter and edit text to meet needs

Candidates should show that they can edit text, correcting simple errors in punctuation and spelling and moving, adding and removing text using cut and paste. Using keyboard short cuts such as CTRL C, V and X can be related to work on improving productivity in unit 1.

Evidence: from records of day to day work, e-portfolio pages and files.

Additional information and guidance

If possible provide experience of more than one text editing program. There are advantages to text editors because sometimes cutting and pasting text carries over unwanted style information. Copying first to a text editor will remove the styles providing "clean", plain text. Rich text editors for web pages are increasingly common and very similar to the editing tools in a word processor. In the interests of developing transferable skills, candidates should have opportunities to use more than one system. Most computers come with text editors. The INGOT learner site enables the use of a rich text editor for web pages. Google Docs provides web based editing and OpenOffice can be downloaded freely providing similar functions to Microsoft Office.

6. Detailed Guidance - Silver - Level 1

TLM Level 1 Award in IT User Skills in Open Systems and Enterprise (ITQ)

The Award does not require the mandatory units, it simply requires 9 credits with at least 6 at level 1. So up to 4 credits can come from Entry level 3 units. Since the Award is a subset of the certificate, we only describe the certificate below in detail.

TLM Level 1 Certificate in IT User Skills in Open Systems and Enterprise (ITQ)

6.1 Qualification structure for Level 1

Unit Title	Credit value	Comments
Improving Productivity Using IT	3	Mandatory unit (Level 1)
Web Site Software	3	Mandatory unit (Level 1)
Using Collaborative Technologies	3	Mandatory unit (Level 1)
IT Security for Users	1	Mandatory unit (Level 1)
Spreadsheet software	3	Optional unit but spreadsheets recommended at (Level 1)

13 Credits in total

The optional unit(s) can be any Entry Level 3 Units or above of total credit value 3 or more. They must be different units from the mandatory units.

A general approach

1. Set up learner accounts on the INGOT learning site.
2. Teach how to create regular pages and Blog entries on the INGOT community learning site.
3. Plan an e-portfolio from a collection of regular pages linked together.
4. Describe the plan in a Blog.
5. Make an index page using a regular page - describe process in Blog.
6. Link information pages from the index page and put in content.
7. Describe and evaluate the process in Blog entries.
8. Teach the learner how to self-assess and provide evidence using the INGOT learning site.
9. Assessor confirms or denies the self-assessment providing guidance on meeting the criteria.

6.2 Silver Unit 1: Improving Productivity Using IT

Improving productivity using IT at Silver Level requires the candidate to plan and review their use of pre-defined or commonly used IT tools for work activities that are straightforward or routine. As a result of reviewing their work, they will be able to identify and use automated methods or alternative ways of working to improve work productivity. Unfamiliar aspect will require support and advice from other people.

A work activity will typically be 'straightforward or routine' because:

The task or context will be familiar and involve few variable aspects. The techniques used will be familiar or commonly undertaken.

Example of context – Providing information on a web page to make it widely accessible.

Learning objectives and assessment criteria

1. Plan the use of appropriate IT systems and software to meet requirements	2. Use IT systems and software efficiently to complete planned tasks	3. Review the selection and use of IT tools to make sure tasks are successful
1.1 I can identify the purpose for using IT	2.1 I can identify automated routines to improve productivity	3.1 I can review outcomes to make sure they meet the requirements of the task and are fit for purpose
1.2 I can identify the methods, skills and resources needed to complete my tasks successfully	2.2 I can use automated routines that aid efficient processing or presentation	3.2 I can decide whether the IT tools I selected were appropriate for the task and purpose
1.3 I can plan how to carry out the task using IT to achieve the required purpose and outcome	2.3 I can complete planned tasks using IT	3.3 I can identify strengths and weaknesses of the completed tasks
1.4 I can identify reasons for choosing particular IT systems and software applications for the task		3.4 I can identify ways to make further improvements to my work
1.5 I can select IT systems and software applications as appropriate for the purpose		
1.6 I can identify any legal or local guidelines or constraints that may affect the task or activity		

6.21 Assessors' guide to interpreting the criteria (Unit 1)

General Information

QCF general description for Level 1 qualifications

- Achievement at QCF level 1 (EQF Level 2) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks.
- It includes responsibility for completing tasks and procedures subject to direction or guidance.
- Use knowledge of facts, procedures and ideas to complete well-defined, routine tasks.
- Be aware of information relevant to the area of study or work
- Use relevant skills and procedures.
- Select and use relevant information.
- Identify whether actions have been effective.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed.

Requirements

- Standards must be confirmed by a trained Silver Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work.
- Assessors should ensure that relevant web pages are available to their account manager on request through supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification. subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 1 learner 30 hours of work to complete.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 unit. Candidates should be helped and encouraged to reference their work to the assessment criteria using assessment for learning process. eg IPU 1.1.2 for IPU Level 1 criterion 1.2. This will make it easier to provide the evidence required for the QA procedures when requested by the Account Manager. There is support for this from learner account profiles on the INGOT web site. PLTS is used to denote where there are opportunities to develop personal learning and thinking skills.

6.22 Expansion of the assessment criteria (Unit 1)

Learning Objective 1

Plan the use of appropriate IT systems and software to meet needs

1.1 I can identify the purpose of using IT

At the simplest level this is knowing that IT can improve the quality and efficiency of work and builds on the requirements of the Entry Level 3 requirement through the candidate taking responsibility for identifying purpose and communicating it effectively in their own way in simple cases.

Evidence: will be provided directly from the presentation of work in web pages that has clear purpose. Discussion with assessor.

Additional information and guidance

Presenting information in different styles to different audiences. For example, the writing style in a forum or informal chat will show different characteristics from writing formally on a web page to present part of an e-portfolio. The candidate can use writing style differences to provide evidence of identifying purpose implicitly. Further evidence might include some awareness of what information is relevant and what is irrelevant to a task and whether information is accurate or biased. Candidates should use logical and appropriate structures to organise and process data indicating the purpose to which their work is being put. At this level they are not required to describe purpose in any detail and they can be provided with structured support so that they can identify purpose from, for example, a list of possibilities.

1.2 I can identify the methods, skills and resources needed to complete my tasks successfully

Building on the requirements for Entry 3, demonstrate a basic ability to plan their work with structured solutions including layout of text and pictures. This will require them to combine simple tools and straightforward techniques. They should show some evidence of checking the accuracy of the information they use and some self-sufficiency in using relevant tools to process and present information.

Evidence: directly from their web pages, day to day files and dialogue with their assessor.

Additional information and guidance

Candidates should know that information can be found from searching the internet, asking people and looking in books. They should be beginning to ask critical questions about the validity of information and its accuracy even if at only a very rudimentary level. They should be able to identify general IT tools and methods to construct and present information. They should be able to identify sequences of instructions as a standard way of automating processes leading to increased productivity.

1.3 I can plan how to carry out the task using IT to achieve the required purpose and outcome

Candidates show evidence of planning by listing the resources they will need and estimating the time it will take to complete tasks in a structured way.

Evidence: plans documented on web pages or in document files.

Additional information and guidance

Planning should, where possible, include reference to anything learnt from previous evaluations or reviews demonstrating that learning is informing the planning process. This can be at a very simple level at this stage. eg In my last project I found that the information I found on one web site was wrong so I will check more carefully this time. Simple plans can be presented in any reasonable way as long as there is evidence of the use of IT and the evidence can be accessed from a URL or e-mail attachment.

1.4 I can identify reasons for choosing particular IT systems and software applications for the task

Candidates should be able to identify reasons why some technologies are preferred over others including price, convenience, features, support, security, ethics.

Evidence: reasons provided in day to day documentation on web pages or document files

Additional information and guidance

This is a good time to raise awareness of the difference between open systems and proprietary technologies. (PLTS) With fully open systems anyone can participate freely, with proprietary technologies, licensing determines who can participate and at what cost. This is a simplification because in practice there are degrees of openness. A fundamental risk with proprietary systems is getting locked into a monopoly where the supplier can determine the price almost without reference to any competition. In the case of fundamental technologies this can lead to extension of the monopoly to other applications. A good example is the relationship between Windows and the Internet Explorer web browser. Since early versions of IE came with Windows and had its own way of displaying web pages it meant that web sites were designed to fit this single proprietary technology killing off competition. This meant that there was little commercial pressure to improve the technology and for a time there were many security issues and problems for web site designers trying to work to published open standards. Now there is far more competition and a clear need to support internationally agreed open standards, development has accelerated, security is better, web site design and development is easier. Of course there is a problem with open systems that are free of charge at the point of use. Development costs money and an alternative business model is needed in order to recover costs. Without getting into the details of the economics, it is obvious that alternative models do exist from the increasing importance of open systems and open source software in the IT industry globally.

Openness is just one consideration but we are providing additional information about it because it is increasingly important and not generally well-understood. We need to start somewhere if we are to have fully informed decision making later and there has been a tendency for established commercial systems to reinforce the impression that there is no real alternative. For truly digitally literate people there are alternatives

demonstrating why education and learning are vitally important to providing true choice.

1.5 I can select IT systems and software applications as appropriate for the purpose

Candidates should show evidence of making a choice between different applications or systems based on specific rational reasons linked to their plans.

Evidence: documentation of plans either in web pages or document files

Additional information and guidance

This implies that they should have some opportunities to compare technologies such as word processors, drawing packages or complete systems of software including combining technologies that help support structured solutions to problems. eg I chose to use Google's spreadsheet because it supports collaborative work. I work with OpenOffice.org at home because it is free. I use Moodle at school because it is the only software available to me to share my web pages. I chose Inkscape because it edits the internationally agreed standard .svg files and there are versions on the major computer platforms and it's free. I chose Audacity because it is free and I wanted to try it out.

1.6 I can identify any legal or local guidelines or constraints that may affect the task or activity

Building on the requirements for Entry 3, we have

- Practical knowledge and participation with an Acceptable Use Policy (AUP)
- A basic understanding of copyright and licensing
- Key technical and security issues

Evidence: participation through signing up to and respecting the AUP. Documentation in web pages or document files referring to their participation in the AUP. Assessors observation of appropriate behaviour in relation to AUP and copyright.

Additional information and guidance

Candidates should understand that an acceptable use policy is intended to support safe and responsible use of ICT in situations where there is participation by many people. Local policy for using the network and the AUP for the INGOT learning site are examples. (PLTS)

They should have a basic understanding of copyright and show evidence that they respect copyright by using suitably licensed resources given guidance. (PLTS)
Evidence from making an account on the INGOT learning site and agreeing to the AUP and observing it during the course.

They should realise that there are technical constraints on tasks such as size and format of files, filters that make web sites inaccessible in some environments. They should be beginning to relate technical and security issues to staying safe on-line.

Learning Objective 2

Use IT systems and software efficiently to complete planned tasks

2.1 I can identify automated routines to improve productivity

Building on the requirements of Entry 3 IPU, candidates should be able to identify common keyboard short-cuts such as CTRL C to copy and CTRL V to paste. They should look in new software for keyboard short-cuts for often used operations such as CTRL S to save work. They should be familiar with the concept of macros, simple scripts and programs that can automate procedures or events (PLTS).

Evidence: will be provided by direct observation and dialogue with the assessor and simple program listings that they might produce, documented in their web pages.

Additional information and guidance

Automated routines cover a wide range of possibilities. Identifying them simply means that they can appreciate when automated routines are taking place and that is almost every computer operation that is not entirely trivial. By implication, if the candidate can use automated routines that they have selected or produced themselves they automatically satisfy 2.1.

2.2 I can use automated routines to improve productivity

Candidates should be able to demonstrate the use of automated routines as identified in the context of well-defined tasks that are subject to direction and guidance in keeping with the general description of Level 1 qualifications in the QCF.

Evidence: direct observation and dialogue with the assessor, reference in day to day documentation of their work in their web pages or document files.

Additional information and guidance

For schools, this is an opportunity to teach some basic programming to reinforce understanding of how IT based automation works. Candidates can demonstrate that they can create precise and accurate sequences of instructions to automate a routine, for example drawing a shape or controlling a device. This could be in the logo programming language, Scratch, Greenfoot, a macro in a spreadsheet or a control programme in design and technology.

2.3 I can complete planned tasks using IT

Candidates should provide evidence of planned tasks completed with the use of IT where the task is well-structured and clear direction and guidance has been provided in keeping with the requirements for Level 1 QCF qualifications. At least one small scale project to produce a service or information resource for other people in keeping with the description of the general requirements for Level 1 qualifications is required. This project should normally be presented in web pages but this can be varied subject to agreement with the Account Manager at The Learning Machine Ltd.

Evidence: web pages providing the presentation of their project. Descriptions in day to day documentation, dialogue with assessor.

Additional information and guidance

The candidate is advised to use work from across the other units to contribute to this

project. This will reduce the administrative burden in sourcing evidence. Producing information in web pages supported by collaborative technologies - eg the preparation of a spreadsheet in Google Docs - with due regard for security will contribute evidence across all the units. While this is not mandatory, it is an allowable method. There is nothing to prevent the candidate providing all their evidence against the assessment criteria in this way.

Learning Objective 3

Review the selection and use of IT tools to make sure tasks are successful

3.1 I can review outcomes to make sure they meet the requirements of the task and are fit for purpose

The candidate should be able to reflect critically on their work in order to make subsequent improvements. Where possible they should use the criteria to self-assess and peer assess their progress. They should gain feedback from the intended audience and take into account their initial plans or intentions. In keeping with the level of expectation for QCF level 1, guidance and direction can be used to support communication of their findings through structured templates and setting review criteria.

Evidence: web pages providing the presentation of a review of their work eg their project, against specific criteria.

Additional information and guidance

Overall, they should provide evidence in their work that they have used criteria to evaluate the quality of solutions and the effectiveness of their work. This might be a simple check of specified intentions matching them to outcomes. "This is what I intended, this was what actually happened." (PLTS)

As a specific example:

Project to teach young children about dinosaurs.

Planning intentions

1. Information is accessible to 7 year olds
2. Information teaches about carnivores and herbivores

Review criteria

- Was information accessible to 7 year olds? - (check with a sample of 7 year olds, could they access the web page(s) could they read the text, did they like the presentation?)
- What did the target audience learn about carnivores and herbivores?
- Was the information used legal? (eg pictures sourced from Wikipedia because they are licensed to be shared.)

3.2 I can decide whether the IT tools I selected were suitable for the task and purpose

The candidate should make judgements based on an increasing knowledge of a range of IT tools, building from the requirements of Entry 3. In keeping with Level 1 qualifications, evaluation headings and descriptions can be provided against which a judgement can be made.

Evidence: web pages or document files documenting simple evaluations of the tools used in projects or tasks.

Additional information and guidance

Evaluation criteria might include ease of use, value for money, quality of output and possible improvements to the way the tools work. They could use this as an opportunity to identify the benefits and limitations of using ICT both at home and at work. Some consideration should be given to cost and an increasing understanding of the importance of open systems. At this level the assessor will need to support this with advice on why free exchange of information between applications especially at least one that is freely available, is a highly desirable attribute. If information is tied closely to a commercial interest, the commercial interest can hold customers to ransom and other people can be forced to buy software licenses simply to access a colleagues or even their own information.

3.3 I can identify strengths and weaknesses in completed tasks

The candidate should be able to state in simple terms strong features and weak features of the work in relation to layout, clarity of communication, intended outcomes or other similar criteria.

Evidence: web pages or document files providing the presentation of a review of their work eg their project, against specific criteria.

Additional information and guidance

This can be tackled at the same time as 3.1 starting with the planned intentions, identifying strengths and weaknesses in relation to them and then reporting on the review outcomes overall. They should seek independent views from peers or other people where possible as an aid to improving and refining their work and respond positively to feedback even if they disagree.

3.4 I can suggest some improvements to make my work more effective

The candidate should provide suggestions for improvements in their written evaluations linking to evidence documented for 3.1 - 3.3.

Evidence: web pages or document files providing the presentation of a review of their work eg their project, against specific criteria.

Additional information and guidance

Candidates should be encouraged to correct mistakes and adopt new and better ways of doing things as a natural part of on-going work. There should not be any obvious spelling errors or grammatical errors in finalised work since it should be picked up in the on-going evaluation process and corrected. Structured support can be given and candidates should be encouraged to seek help in pointing out needs but the candidate should always take some responsibility for improving their own work and make changes and amendments themselves. (PLTS) On the INGOT learner site, assessors should take opportunities to use eg the Assessor comment facility and there is a history available of all changes made to web pages.

Moderation/verification

The assessor should keep a record of assessment judgements made for each candidate guided by the above guidance. Criteria should be interpreted in the context of the general

descriptors of QCF Level 1 qualifications. They should make notes of any significant issues for any candidate and be in a position to advise candidates on suitable routes for progression. 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 through reference to candidate e-portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound. In the event of missing evidence, the assessor will be requested to gather appropriate information before the award can be made.

6.3 Silver Unit 2: Website Software

This is the ability to use a software application designed for planning, designing and building websites. At Silver level, the requirement is to use basic website software tools and techniques to produce straightforward or routine single web pages from pre-set templates. Any aspect that is unfamiliar will require support and advice from others. Website software tools and techniques will be defined as 'basic' because they will be pre-defined or commonly used. The range of inputting, manipulation and outputting techniques are straightforward or routine and the template used for the content will be pre-determined or familiar.

Example of context: Personal web page or blog created in social networking, learning or auction site; information pages created within web or content management system

Learning objectives and assessment criteria

1. Plan and create web pages	2. Use web site software tools to structure and format web pages	3. Publish web pages to the internet or an intranet
1.1 I can identify what content and layout will be needed in the web page	2.1 I can identify what editing and formatting to use to aid both clarity and navigation	3.1 I can upload content to a web site
1.2 I can identify the purpose of the web page and the intended audience	2.2 I can select and use website features to help the user navigate simple web sites	3.2 I can respond appropriately to common problems when testing a web page
1.3 I can select and use a website design template to create a single web page	2.3 I can use appropriate editing and formatting techniques	
1.4 I can enter or insert content for web pages so that it is ready for editing and formatting	2.4 I check that my web pages meet needs, using IT tools and making corrections as necessary	
1.5 I can organise and combine information needed for web pages		
1.6 I can identify copyright and other constraints on using other people's information		
1.7 I can identify what file types to use for saving content		
1.8 I can store and retrieve web files effectively, in line with local guidelines and conventions where available.		

Note that the facilities to support this unit are provided freely on the INGOTs.org web site at www.theingots.org. Make an account and go to the "How tos" section or use the free on-line course. This is recommended but not mandatory. As long as we can access evidence via a URL to the learners' work we can apply the quality assurance procedures. Assessors should contact their Account manager early to discuss their methods of providing evidence.

6.31 Assessors' guide to interpreting the criteria (Unit 2)

General Information

QCF general description for Level 1 qualifications

- Achievement at QCF level 1 (EQF Level 2) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks. It includes responsibility for completing tasks and procedures subject to direction or guidance.
- Use knowledge of facts, procedures and ideas to complete well-defined, routine tasks. Be aware of information relevant to the area of study or work
- Complete well-defined routine tasks. Use relevant skills and procedures. Select and use relevant information. Identify whether actions have been effective.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed

Requirements

- Standards must be confirmed by a trained Silver Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work.
- Assessors should ensure that relevant web pages are available to their account manager on request by supplying the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 1 learner 30 hours of work to complete. This might take less time for those who have already learnt aspects of the work or can contribute learning from other areas of the curriculum. Some learners will make faster progress than others quite naturally.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 unit. Candidates should participate in small scale projects that can provide useful information

to other people and where assessment can take place in meaningful practical contexts.

6.32 Expansion of the assessment criteria (Unit 2)

Learning objective 1

Plan and create web pages

1.1 I can identify what content and layout will be needed in the web page

Candidates should provide evidence of being able to identify suitable pictures, text and tables to support their work. This is likely to be part of the planning process linked to the IPU unit in order to develop a reasonable structure for their work. In keeping with Level 1 criteria, these items can be identified from a guided set of options. Candidates should show awareness of why the resources are relevant to the particular application. (PLTS)

Evidence: web pages with a sensible choice of content.

Additional information and guidance

At this level the most likely content for web pages is graphics and text perhaps using tables to help organise layout. This is not mandatory and other media can be used, however, it is advisable to keep things simple initially and go for clear organised and consistent presentation of two or three identified content types. Remember that with text there is an issue of styles and with graphics, the need to use software tools such as an image editor to prepare images to be suitable sizes and formats for a web page. There are then issues of copyright and finding suitable materials to be used. For these reasons it is better to control the number of variables and treat a limited number with high quality than to be over-ambitious. Wikipedia is a good source of images because it has a big range of copyright material that is licensed to be shared. www.openclipart.org is another free resource.

1.2 I can identify the purpose of the web page and the intended audience

Candidates should provide evidence that they have a clear purpose in creating their web page highlighting the benefits of the use of ICT and any limitations for the intended audience.

Evidence: expression of purpose in the day to day documentation of their work.

Additional information and guidance

Intended audience could be family, future employers, customers or peers. eg "I will use this page to show a future employer what I have learnt, the main problem will be that it won't show everything I know and can do". Or "I will make an e-portfolio of my work in several subjects so I can see how I have progressed and show other people"

1.3 I can select and use a website design template to create a single web page

Candidates show evidence of creating a web page to a pre-defined format. This could be in a Web 2.0 environment such as Drupal (INGOT Learner site software) using a theme or pre-defined template or in web design software such as Kompozer or Dreamweaver or using wizards provided by Googlesites.

Evidence: web page template used as a basis for presenting information.

Additional information and guidance

Use the INGOT community learning site with the standard theme is recommended but bring attention to the options for other themes and that HTML can be copied from another page to provide a template for a new page. Simple layouts usually work best with web pages. Note for Level 1 they only need a single page. If they can make multiple pages and link them together logically and self-sufficiently it is an indication of a "H" for the criterion and that might indicate they should be going for Level 2 (Gold).

1.4 I can enter or insert content for web pages so that it is ready for editing and formatting

Candidates should be able to enter their content to their web page template. This might be entering it directly, cutting and pasting, uploading or any other reasonable method. They should ensure that the media is appropriately prepared.

Evidence: web page populated with content

Additional information and guidance

Many Web 2.0 environments provide direct creation of web pages. Examples are Wikis and content management systems. The Ingot learner site is provided specifically for this purpose but its use is not mandatory. Learners can make accounts and then create a range of different web page types, eg a Blog page or an e-portfolio page. They can insert and edit text, graphics and tables and attach files using the CK rich text editor and/or HTML. They can easily make links between pages and the system records a history of all pages created. Any similar environment can be used as long as the URL to candidate's work is available to TLM for moderation and verification.

1.5 I can organise and combine information needed for web pages

Candidates should show evidence that the content of their page provides a coherent message or messages as a result of at least two types of information. eg a picture illustrating text.

Evidence: web page populated with organised content that conveys a message

Additional information and guidance

Going beyond simple data types to embed links to video or audio "podcasts" is an indicator of higher performance "H". The page, while uncomplicated should have a logical and ordered structure with a minimum of a title in a heading style, text, a related picture and a simple table. For level 1 they might need help uploading a graphic of the right size and format. .jpg or .png trimmed to less than 500 pixels square. Level 2 candidates should be able to do this self-sufficiently and this ability together with appreciation of the file format and graphic size and resolution are definite level 2 characteristics that will differentiate from level 1.

In producing the page they are processing data to provide information by organising the data to have meaning to the intended audience. For example, a picture of a favourite celebrity with a text description composed by the learner and a table of facts about the person is typical of what is expected. It could be the diagram and method for a science investigation accompanied by a table of results. A graphic of a chart produced from a spreadsheet with either a screen shot of the spreadsheet data or the data entered in a web page table. (Why would the latter give a better result?) They could make a link to a shared spreadsheet in Google Docs contributing to the

Collaborative technologies unit. The information they present should be for a specific purpose and to a familiar audience.

1.6 I can identify copyright and other constraints on using other people's information

Candidates should provide evidence that they have considered the copyright of any content they use in their page(s). (PLTS) This should be related to using ICT safely and responsibly and identifying the benefits and limitations of using ICT.

Evidence: web page comments on the sources of their content and freedom of use.

Additional information and guidance

Text and illustrations they originate themselves belong to them but any clip art, text from other sources and eg music or audio files etc must be checked for copyright licensing restrictions. Wikipedia is a good source because it is Creative Commons licensed and so information is licensed to be re-used and shared. www.openclipart.org supports clip art intended to be shared. If in doubt don't use it! At level 1 it is sufficient for candidates to be aware of the issue and ask for guidance. There should be no information on their page that is obviously copied from a restricted source and they should always acknowledge the source of information they use if it is not their own. Assessors should provide appropriate support. They should be aware that passing off other people's work as if it is their own (ie without acknowledging the originator) is grounds for disqualification from certification no matter how good the rest of their work. At level 1, assessors will play a key role in ensuring that the learner's work is legal. Candidates should also respect any local guidance on appropriateness of content. There should be no gratuitous violence, material of a sexual nature or anything that could be considered offensive to colleagues, peers or the general public. This is also related to work on acceptable use policies. If a candidate has a good grasp of copyright and associated licensing and they can name a range of sources of materials licensed for sharing and those not, it is an indicator of Higher performance rather than just secure. Avoid using "Copyright-free" as a term. In most cases all work has copyright it is simply that the license allows or encourages sharing and re-use. Such work is NOT copyright-free, it is simply licensed to be used freely.

1.7 I can identify what file types to use for saving content

Candidates should be able to identify the following file types as important open standards related to the web. HTML, .txt, pdf, .jpg, .png, .svg. They should be encouraged to use these formats whenever possible.

Evidence: use of appropriate file types in their work. Comments descriptions in day to day documentation.

Additional information and guidance

They should be discouraged from attaching files to pages when the information can easily be presented in the page itself. eg attaching a .doc file with text and a picture to the page is pointless when displaying the information directly in the page is quicker and more efficient. They should be discouraged from attaching files in proprietary formats which would require the audience to buy software in order to see the content. (PLTS) A good example is MS Publisher files that can only be opened in Publisher with many people not having that software. These considerations should be raised at the planning stage. Even very popular formats such as .doc and .ppt are at least a bit of a problem for some people. At this level it is sufficient to recognise the basic open

standard formats. Supporting open formats is in the long term good for everyone (apart perhaps for those with a commercial interest in a closed format). This is an opportunity to provide an evaluation of their work against a set of criteria to determine how appropriate the quality of their information solution is in terms of its openness. For Level 1 it is good enough to be able to recognise the listed file types and realise that open standards in data are important. If they show knowledge in more detail such as when to use png rather than jpg and why there is an issue using svg directly in web browsers, these all indicate higher performance more in keeping with Level 2.

1.8 I can store and retrieve web files

Candidates should demonstrate that they can attach files to pages and download and save them to sensible places where they can find them again later. They should be able to rename files, delete them, print them and open them in applications for processing.

Evidence: web pages, data files and direct observation.

Learning objective 2

Use web site software tools to structure and format web pages

2.1 I can identify what editing and formatting to use to aid both clarity and navigation

Candidates should appreciate that simple and consistent styles and formatting aid clarity and navigation. They should know that formatting is different from in a word processor where the layout is fixed to a particular paper size. With web pages the formatting can change at different screen resolutions eg very large images can cause formatting problems particularly on low resolution displays. They should show that they can identify simple links to other pages.

Evidence: web pages that employ simple but clear formatting that survives change of browser resolution reasonably well.

Additional information and guidance

Use CTRL + and CTRL - in the web browser to see the effect of scale on formatting. It is a good idea to give candidates experience of editing simple HTML as well as editing using a WYSIWYG editor such as the rich-text provided in most web software applications. This prepares the learner for more advanced editing where the editor lacks a particular feature or where the editor produces an unexpected result. If they have no fear of HTML they can begin to identify problems and become more self-sufficient. In the use of HTML the learner can produce precise and accurate sequences of tags to provide predictable effects and they can change the parameters of tags (variables) and explain the effects. For level 1 it is sufficient to have experience of heading tags, breaks and paragraphs and ordered and unordered lists. This is easily achieved in the CK editor in Drupal simply by toggling between plain text and rich text editor and the foot of the edit window. If they can do more in HTML and, for example, tidy up HTML imported from a word processor, this is "H" attainment and indicative of possible level 2 readiness.

2.2 I can select and use website features to help the user navigate simple web sites

Candidates should be able to create links to other pages and web sites and position

them logically in the context of the page. They should be able to identify anchors on the page and make links to them.

Evidence: from candidate web pages.

Additional information and guidance

On the Ingot learner site they can use different page types such as a public page to share editing, or use Book pages that will automatically link groups of related pages. There are no mandatory features as long as it is clear that some features of the software are used to aid navigation eg identifying where links between pages would be useful eg returning the user to an index page.

2.3 I can use appropriate editing and formatting techniques

Candidates should provide evidence that they have used select, cut and paste, undo, redo, find and replace and similar techniques in their work. They should be able to position images, put borders around them and adjust the space between the image and surrounding text. This should contribute to presenting their information so that it is clear and easy to understand.

Evidence: direct observation by the assessor and web page design outcomes.

Additional information and guidance

It is important to relate appropriate with "sparingly". Simple consistency in layout and styles is best. Use pre-defined headings consistently and check that changing the browser resolution within reasonable limits does not destroy the formatting.

2.4 I check to make sure my web pages meet user needs using IT tools and making corrections as necessary

Candidates should ensure that spelling and grammar are accurate. They can do this using spell checkers and similar tools and by asking peers and others to proof read their work. Their work should be their own and they should do the editing but it is perfectly reasonable and indeed desirable for others to point out errors and mistakes and to test pages with representatives of their target audience. They should receive appropriate feedback graciously and be prepared to give feedback to others.

Evidence: direct observation by the assessor recorded feedback from potential users.

Additional information and guidance

They should know that not everyone has the same software as they do and that they should, where possible, use open standards that are independent of particular products from individual suppliers. This will ensure that the information they provide is available as widely as possible. They should be aware that people with disabilities (PLTS) such as blindness might use the site and so text descriptions of images should be included in appropriate places and colour contrasts should be appropriate. At level 1 they will need reminding. Self-sufficiency and routine consideration of accessibility and wider user needs is indicative of higher and Level 2 performance. Checking with several web browsers is desirable so they are sure all users can see their pages formatted correctly.

Learning Objective 3

Publish web pages to the internet or an intranet

3.1 I can upload content to a web site

This means demonstrating that they have at least one web page with meaningful content on-line and accessible from a URL. Assessors should be able to verify that the learner was able to transfer the content to the page themselves.

Evidence: direct observation by the assessor. Candidate web page(s) on-line.

Additional information and guidance

If they are using the INGOT learner site (Drupal) the text content is automatically uploaded to the web site when it is saved. The candidate should provide evidence that they have uploaded images and/or other files to their user space to display or make available from their web page. At this level some assistance is reasonable in preparing content especially getting file sizes and resolution of graphics optimal. If they can do these things self-sufficiently for a range of file types and understand things like the limits for file sizes and types it is again indicative of higher level 2 (Gold) performance. Assessors should point out to candidates that uploading a lot of content to a particular page will slow down the speed with which it loads. It might be better to divide the content between more than one page, particularly if users with slow connections are to be included. Routine consideration and planning for this is indicative of higher and/or level 2 performance.

3.2 I can respond appropriately to common problems when testing a web page

The candidate should recognise when a page is not displaying as intended, fixing simple issues (eg a spelling error, text misalignment or a graphic failing to display) and asking for help.

Evidence: direct observation by the assessor. Candidate web pages free from significant problems including spelling errors.

Additional information and guidance

This is an opportunity to use criteria to evaluate the quality of their solution and identify improvements and ways to refine their work and can be linked back to the IPU unit. Since the reasons for problems vary from trivial to technically at a much higher level, responding appropriately broadly means doing something about it rather than just leaving something that isn't working as intended. If the page does not display at all, candidates should know to check the URL to make sure it is the same as for the saved page. They should check that layout is as intended and seek help (PLTS). If aspects do not turn out as intended there could be a variety of reasons beyond the scope of a Level 1 candidate but the candidate should check and identify the problem and seek appropriate help if solving it is beyond their current skill level. Encourage them to learn about the nature of the problem and what led to it. They should check spelling and grammar and if not strong in that area ask for a second opinion working to improve. They can document their evaluation and fixed problems on a web page as part of their work (also relevant in the IPU unit). If they need help linking this to the rest of their work that is a good indication that they are at Level 1 if they can organise this fairly self-sufficiently it indicates higher performance and perhaps Level 2.

Errors that are difficult to fix in a rich text editor can be easy in HTML. Line spacing for

paragraphs could simply mean replacing a <p> tag with a
 tag. While this is not expected at this level for assessment it is worth introducing some simple HTML eg by making a heading in the rich text editor and switching to HTML to show the learner that <h1>Heading</h1> switches heading style on and off. Confidence to edit HTML tags will make a big difference later and can form a foundation for eg Javascript programming. If pages do not display properly in Internet Explorer version 6 and earlier, it is most likely that it is due to IE not conforming to the agreed standards. Try a later version and consider upgrading. Fixing that sort of problem is well beyond level 1 and might well be beyond the technical expertise of the assessor. Consistent browser display is a further illustration of the need to conform to open standards.

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 through reference to candidate e-portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound. Assessors must use the guidance here to inform their judgements.

6.4 Silver Unit 3: Using Collaborative Technologies

This is the ability to use IT tools and devices for collaborative working and communications, such as web or video conferencing, instant messaging/chat, online 'phone and video calls; online forums, social networking sites, wikis and other centralised depositories for documents, blogging, RSS and data feeds, bulk SMS or online work management tools.

The requirements for Silver Level are for candidates to show that they can safely use IT tools and devices to work collaboratively by preparing and accessing IT tools and devices, playing a responsible and active role in real-time communication and contributing relevant information.

Any aspect that is unfamiliar will require support and advice from others.

Example of context: Typical collaborative work activities may include – setting up a profile on a social networking site, taking part in an on-line conference or chat session, working on a shared web page. Providing self and peer-assessed evidence to an assessor using an on-line system.

Learning objectives and assessment criteria

1. Stay Safe and secure when using collaborative technology	2. Set up and access IT tools and devices for collaborative work	3. Prepare collaborative technologies for use	4. Contribute to tasks using collaborative technology
1.1 I can follow guidelines for working with collaborative technologies	2.1 I can set up IT tools and devices that enable me to contribute to collaborative work	3.1 I can use given details to access collaborative technologies needed for a collaborative task	4.1 I contribute responsibly and actively to collaborative working
1.2 I can identify risks in using collaborative technologies and why it is important to avoid them	2.2 I can identify the purpose for using collaborative technologies and expected outcomes	3.2 I can adjust basic settings on collaborative technologies	4.2 I contribute to producing and archiving the agreed outcome of collaborative working
1.3 I can carry out straightforward checks on others' on-line identities and different types of information	2.3 I can identify which collaborative technology tools and devices to use for different communication media	3.3 I can change the environment of collaborative technologies	4.3 I can identify when there is a problem with collaborative technologies and where to get help
1.4 I can identify when and how to report on-line safety and security issues	2.4 I can identify what terms and conditions apply to using collaborative technologies	3.4 I can set up and use a data reader to feed information	4.4 I can respond to simple problems with collaborative technologies
1.5 I can identify what methods are used to promote trust		3.5 I can identify what and why permissions are set to allow others to access information	

6.41 Assessors' guide to interpreting the criteria (Unit 3)

General Information

QCF general description for Level 1 qualifications

- Achievement at QCF level 1 (EQF Level 2) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks. It includes responsibility for completing tasks and procedures subject to direction or guidance.
- Use knowledge of facts, procedures and ideas to complete well-defined, routine tasks. Be aware of information relevant to the area of study or work
- Complete well-defined routine tasks. Use relevant skills and procedures. Select and use relevant information. Identify whether actions have been effective.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed

Requirements

- Standards must be confirmed by a trained Silver Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work.
- Assessors should ensure that relevant web pages are available to their account manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 1 learner 30 hours of work to complete.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 unit.

6.42 Expansion of the assessment criteria (Unit 3)

Learning Objective 1

Stay Safe and secure when using collaborative technology

1.1 I can follow guidelines for working with collaborative technologies

Candidates should follow any acceptable use policies set for the working environment. They should with help, support achievement of working outcomes through following such guidance as is necessary for positive results. They should respect copyright, privacy and security in relation to collaborative working. (PLTS).

Evidence: direct observation by the assessor. User accounts

1.2 I can identify risks in using collaborative technologies and why it is important to avoid them

Candidates should understand that collaborative technologies can provide direct information links from them to people they don't know and who might not have good intentions towards them. The risks of disclosing personal information are real. In general, assessors should advise against using real names and publishing information that would enable someone to know the physical location of the candidate and especially not locations and times.

Evidence: assessor observations, questioning, assessor devised tests, content of

web pages and on-line discussions.

Additional information and guidance

There is the story of Little Red Training Shoe on the INGOT Learning Site that illustrates some of the dangers. They should not arrange meetings with anyone they know only from connection through a collaborative technology. They should be aware of the possibilities of data loss/lack of access to data through power cuts or other systems failures and general security issues. This work can build on the safety requirements given for Entry 3 IPU criterion 1.4 and other work related to security in the IT security unit below.

1.3 I can carry out straightforward checks on others' on-line identities and different types of information

Candidates should demonstrate that they can search for people to see what general information is available about them, taking account of accuracy and potential bias. With guidance, they should show some ability to cross-reference information to look for confirmatory or conflicting evidence of accuracy and truth.

Evidence: assessor observations, content of web pages and on-line discussions, day to day documentation of work.

Additional information and guidance

Identity can be individuals or organisations. This work can be related to searching for information and checking its validity and accuracy. The overall aim is to show candidates that they can not simply accept on-line information on face value and they need to check. This can link back to safety and security issues in the IT security unit below and the requirements for the Entry 3 criterion 1.4. A good level of cross-referencing competence, checking validity and strategies for authenticating information indicates work beyond level 1 and in keeping with the general description of QCF level 1, structured guidance will be needed.

1.4 I can identify when and how to report on-line safety and security issues

Candidates should report any instances that they know contravene the agreed acceptable use policy to their assessor. They should know that they should report any serious issues outside the scope of the learning or work environment to the service provider. (PLTS)

Evidence: assessor observations internally set tests

Additional information and guidance

This does depend on opportunity but assessors can set up a simulation or role play exercise where candidates can demonstrate that they know how to take the appropriate action and follow local procedures for reporting safety and security issues. If the community knows that action will be taken it is a significant deterrent to misuse of systems.

1.5 I can identify methods that are used to promote trust

Candidates should understand that things are not always what they seem and it is quite easy to make a web site look like something that it isn't. Equally individuals can take other people's identity if they know some key information. The candidate should be able to identify spoofing branding, identity theft and grooming as three key

methods of promoting trust.

Evidence: documentation on web pages or day to day files. Internally set tests.

Additional information and guidance

Brand names are one of the most widely used methods of promoting trust. Candidates should understand that it is quite easy to make a web site look as if it belongs to a trusted brand when it is really something else. The promotion of trust can be bogus and designed to entrap victims as well as positive in the sense of giving consistent and clear information. There are many instances of people claiming qualifications and titles that are entirely made up - how can these be authenticated with some certainty? Authenticating a qualification through an on-line database with a secure and definite URL is much safer than relying on a paper print out that could easily be forged.

Social networking sites often have facilities to recommend others but there is no guarantee that such recommendations are genuine. One person could get several friends to recommend them or even the same person using several ids. Greater numbers of recommendations or recommendations that can be confirmed by people you know or trust are safer. A web site with a telephone number and a physical address is more trustworthy than one without because you can contact the people directly and so could the police. Links between web sites and professional bodies will also give more confidence that they are genuine. Any in-depth knowledge and understanding of scams such as phishing, pharming or similar activities indicates that the candidate is operating beyond Level 1.

It is important to instil in the learner at this stage that nothing is ever 100% certain or safe. The important thing is to reduce risk as far as reasonably possible and weigh up the benefit against the risk in deciding whether and action is worth taking. This applies to life in general and not just the use of collaborative technologies. (PLTS)

Learning objective 2

Set up and access IT tools and devices for collaborative work

2.1 I can set up IT tools and devices that enable me to contribute to collaborative work

Candidates should demonstrate that they have the capability of getting on to a collaborative network by initiating the systems and procedures for access. This can be setting up an account on a web site, forum, mailing list or similar collaborative technology. Setting up a mobile telephone account might be relevant to some candidates.

Evidence: assessor observation and links to evidence of participation in collaborative work, internally set test/task

2.2 I can identify the purpose for using collaborative technologies and expected outcomes

Candidates should demonstrate that they have a clear purpose in using collaborative technologies through their general work. This can be related to identifying purpose in the IPU units.

Evidence: documentation of planning in web pages and document files

Additional information and guidance

Their planning and documented discussions should indicate expected outcomes such as learning from other people, sharing information, developing resources, taking part in discussion and debates. (PLTS) Their work should include identifying the benefits of using social networking as a collaborative tool and any limitations. eg It helps share ideas with other people you might never otherwise meet, the lack of personal contacts mean misunderstandings happen that would not in a face to face meeting. In keeping with Level 1 descriptions, structured support can be provided through provision of lists, tables or other structured information from which the candidate can identify their purpose as part of their planning. Any extensive more self-sufficient discussion indicates attainment beyond level 1.

2.3 I can identify which collaborative technology tools and devices to use for different communications media

Candidates should provide evidence that they can identify some aspects of the technology that provide specific advantages or benefits.

Evidence: planning documentation in web pages and document files, internally set tests.

Additional information and guidance

Examples could be a shared web page or Wiki so that all participants can contribute to a web information project at any time and in any place with an internet connection. Skype enables very low cost video conferencing on an international scale, Google Docs enables collaborative work on documents presentations and spreadsheets. Mobile telephones enable direct voice to voice communications and text messaging but they are relatively expensive. Candidates should be able to name specific hardware and software technologies that can support their collaborative work, eg a Smartphone, netbook, headset, content management software, forum, Voice over IP. The INGOT learning site provides the facilities for collaborative working such as setting up a shared web page and discussion forums. It is not mandatory to use it, but its use will enable the requirements to be met.

2.4 I can identify what terms and conditions apply to using collaborative technologies

Candidates should be able to identify acceptable use policies and similar contract and conditions of use for collaborative technologies.

Evidence: planning documentation in web pages and document files, internally set tests.

Additional information and guidance

At level 1 it is not expected that candidates will fully understand the details of every complex set of terms and conditions and assessors need to provide a "safety net" while candidates are learning. In most cases the fundamental set of conditions is the Acceptable Use Policy and the INGOT learning site version is designed to be simple to understand yet effective in enabling the sharing of resources. Terms and conditions on other sites eg Google Docs are much more complex and issues of ownership of information can become complicated. At this level, identifying the need to respect any software license conditions, local policies, or community policies for the use of collaborative technologies and acting accordingly is sufficient.

Learning objective 3

Prepare collaborative technologies for use

3.1 I can use given details to access collaborative technologies needed for a collaborative task

The candidate should show that they can follow a set of instructions to set up an account on a collaborative networking site, forum or e-mail list, registering an id with a suitable password and/or follow instructions to enable the collaborative technologies to be put to practical use.

Evidence: assessor observation and evidence of collaborative working.

Additional information and guidance

They should show they know how to agree terms and conditions of use and any implications of those conditions. Anything beyond following basic instructions indicates operation above Level 1.

3.2 I can adjust basic settings on collaborative technologies

This will depend on the particular technology. Examples are given below but they are not exhaustive. Any reasonable adjustments to basic technology settings is acceptable.

Evidence: assessor observation and evidence of collaborative working

Additional information and guidance

Examples will include adjusting a web browser for different screen resolutions by zooming in and out with CTRL+ or CTRL-. Bookmarking often used pages, choosing a different theme, inviting links from collaborators to find their work more easily, choosing different content types eg public or private. Any other basic settings for collaborative technologies such as Skype, mobile telephones etc.

3.3 I can change the environment of collaborative technologies

This refers to the context and user interface and will vary with different technologies. Some examples are given below.

Evidence: assessor observation and evidence of user-defined changes to their working environment.

Additional information and guidance

Trying out different themes or similar changes that will affect the general operating environment. eg removing tool bars in the browser to give more working space, changing from a WYSIWYG editor to a text and HTML view of a web page, accessing the work from a different web browser or from a computer running a different operating system.

3.4 I can set up and use a data reader to feed information

A data reader is any device that can take data as an input. A microphone, a digital camera, web cam and scanner are all data readers. The candidate should demonstrate that they can use relevant devices to source information for their

collaborative work.

Evidence: content of web pages and document files, assessor observations

Additional information and guidance

With structured support they can process and organise the information into logical structures and feed that information into the collaborative work. At level 1 this will largely involve working to set patterns and instructions provided. Examples include, taking a digital photograph, processing the image and presenting it on a shared web page as part of collaborative work, installing Skype and initiating a video conference, recording a podcast and making it available from a Blog.

3.5 I can identify what and why permissions are set to allow others to access information

Candidates should understand that different users require different levels of access to systems. They should be able to identify Administrator, Authenticated User and Unauthenticated user as three specific roles used on most collaborative systems.

Evidence: content of web pages and document files, assessor observations

Additional information and guidance

Someone needs access to all accounts to administer the system but they have to be someone trusted. This is the admin. or administrator role. If everyone has access to everyone else's account there would be no privacy. Some pages might contain confidential information whereas others can be shared publicly with public editing as with Wikipedia. An authenticated user is one that has an account. These people can be traced so there is some possibility of tracking them down if they damage the system or violate the acceptable use policy. An unauthenticated user is someone who can just use the system without logging in, sometimes it is called Guest. Usually an unauthenticated user is very limited in what they can do. It could be just that they can view general information pages but they might be able to edit public pages. There are many other possible roles and users can set their own permissions for their own pages. A private page might only be viewable by themselves and a few chosen friends.

This is all part of using ICT safely and responsibly and should be related back to the appropriate guidance in other units. At this level understanding the role types guest/unauthenticated user, authenticated user and administrator is enough. Any knowledge of more sophisticated options indicates working at a level higher than Level 1.

Learning objective 4

Contribute to tasks using collaborative technologies

4.1 I contribute responsibly and actively to collaborative working

The candidate should show that they follow the rules of 'netiquette', respect others contributions, avoid either dominating or not responding in a collaborative task. Contributions should be positive and at levels in line with the rest of the criteria in this and associated units

Evidence: content of web pages and document files, assessor observations

4.2 I contribute to producing and archiving the agreed outcome of collaborative working

There should be clear evidence of the candidate's contribution to a finished presentation of collaborative work, documented in their personal web pages or blog.

Evidence: assessor observations, documentation in blogs, web pages or document files

4.3 I can identify when there is a problem with collaborative technologies and where to get help

The candidate should identify problems that prevent them from working or compromise the quality or efficiency of their work and take action. This should be tempered by patience and appropriate behaviour.

Evidence: assessor observations, documentation in blogs, web pages or document files

Additional information and guidance

This criterion is simply about identifying the problem. The assessor and peers are immediate sources of help, but internet searches are possible sources too. Candidates should be beginning to become aware that internet forums and communities eg the Drupal community are rich sources of free support. This has to be considered alongside general internet safety but a focused question in a forum of experts will often solve a problem quickly and at no cost to the user.

4.4 I can respond to simple problems with collaborative technologies

The candidate can follow on-screen help and knows who and where to ask for expert help (PLTS). They can check and fix simple and obvious problems themselves.

Evidence: assessor observations, documentation in blogs, web pages or document files

Additional information and guidance

Examples could be to check power is connected, check settings are appropriate, check if the browser is out of date or does not conform to standards. At this level identifying that something is wrong and seeking help is reasonable but expect obvious things like no power, a disconnected screen or data cable to be picked up by the candidate. Candidates should behave well and with patience. If the candidate is particularly good at problem solving and helps others, they are operating at higher than this level and could be ready for Level 2.

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 through reference to candidate e-portfolios. Before authorising certification, the Account Manager must be satisfied that the assessors judgements are sound.

6.5 Silver Unit 4: IT Security for Users

This is the ability to protect hardware, software and the data within an IT system against theft, malfunction and unauthorised access. The candidate will be able to identify day-to-day security risks and key laws and guidelines that affect the use of IT. They will use simple methods to protect software and personal data (eg risks from people getting access to data who are not authorised). They will identify the risk from viruses or from hardware not working properly and take simple steps to remedy the situation.

Examples of context: Knowing the need to run regular virus checks on computers running the Windows operating system. Learning objectives and assessment criteria.

Use appropriate methods to minimise security risks to IT systems and data
1.1 I can identify security issues that might threaten system performance
1.2 I can take appropriate security precautions to protect IT systems and data
1.3 I can identify threats to information security associated with widespread use of technology
1.4 I can take appropriate precautions to keep information secure
1.5 I can follow relevant guidelines and procedures for the secure use of IT
1.6 I can describe why it is important to backup data securely
1.7 I ensure that my personal data is backed up to appropriate media

6.51 Assessors' guide to interpreting the criteria (Unit 4)

General Information

QCF general description for Level 1 qualifications

- Achievement at QCF level 1 (EQF Level 2) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks. It includes responsibility for completing tasks and procedures subject to direction or guidance.
- Use knowledge of facts, procedures and ideas to complete well-defined, routine tasks. Be aware of information relevant to the area of study or work
- Complete well-defined routine tasks. Use relevant skills and procedures. Select and use relevant information. Identify whether actions have been effective.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed

Requirements

- Standards must be confirmed by a trained Silver Level assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their account manager on request by supply of the URL.

- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 1 learner 10 hours of work to complete.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some progress but secure capability has not yet been achieved and some help is 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 unit.

6.52 Expansion of the assessment criteria (Unit 4)

Learning objective 1

Plan and create web pages

1.1 I can identify security issues that might threaten system performance

Candidates should be familiar with common security issues that could affect the way their computer performs.

Evidence: assessor observations and day to day document files

Additional information and guidance

A simple risk assessment can be used to identify the issues, for example selecting and prioritising risks from a provided list, sorting and classifying security issues. Relate this work to safety and security issues in the other units.

Examples of risks are:

- Using an operating system that is the target of most malware. Is it necessary?
- Unsolicited e-mail (spam) and associated attachments that could be intended to damage the system or applications software.
- Running anti-virus and spyware programs slows down other operations
- Viruses and malware that consume resources without the user being aware
- Web browser pop ups and advertising

They should also realise that most information sources, web sites, USB keys and discs are potential sources of virus infection especially on computers running older versions of the Windows operating system that are not now supported with security patches. 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.

Virus checkers significantly affect performance when running too. Early versions of Windows allowed programs to install themselves without reference to the user and there was a resulting explosion in the proliferation of viruses with internet connectivity making things worse. 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 not normally do damage. Virus checkers for Linux are targeted on servers that provide information to Windows client machines. The virus checker then strips out the virus on the server before it reaches the Windows client.

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 you won't 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 (Linux, Mac, BSD) is that there are fewer of them so virus writers target the big numbers. It is also true that on average the IT literacy of Unix users is probably a good bit higher than for the average Windows user. Overall, Windows users are currently much more at risk from viruses than Unix users.

The latest versions of Windows have better security but there are still masses of viruses that will infect them if inexperienced users do silly things! There are massive commercial interests at stake 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 and 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 take appropriate security precautions to protect IT systems and data

Candidates should show practical capability and a responsible attitude in relation to basic security in their every day work.

Evidence: assessor observations and day to day document files

Additional information and guidance

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 (eg 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.

They should know that on Windows Systems up to date anti-virus software and regular checks are essential. If connected to the internet check there is a firewall between the client machine and the wider internet. Back up data and ensure backups are in a physically separate place from the source. (PLTS)

1.3 I can identify threats to information security associated with widespread use of technology

Candidates should be able to identify some specific key threats relevant to their

circumstances. Relate this to safety and security in other units.

Evidence: assessor observations and recording in day to day document files

Additional information and guidance

1. 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.
2. The use of insecure passwords, sharing of passwords, storing user name and passwords in public web browsers
3. Leaving computers logged in while unattended especially in public places
4. People who pretend to be trusted entities in order to get personal information from users. (Phishing)
5. Providing personal information on public networks that could enable criminals to access individuals' personal data.

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 take appropriate precautions to keep information secure

Since information is organised data, keeping data secure will keep any associated information secure. (see 1.2 above)

Evidence: assessor observation and secure user accounts in practice.

Additional information and guidance

Since information can make immediate sense to a candidate whereas data need some sort of processing, greater care is needed keep information secure. Candidates should also take particular care if entrusted to carry sensitive information on discs, laptops and memory sticks. Such physical devices can be lost or misplaced. If sensitive information exists on a secure network, it will increase the security risk every time that information is copied to another device or server so making backup copies has a downside as well as a benefit. Candidates can use security as a 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.

1.5 I can follow relevant guidelines and procedures for the secure use of IT

Candidates should demonstrate that they conform to any local acceptable use policies and procedures related to security. This can be related to other units and criteria related to safety and security.

Evidence: assessor observation and secure user accounts in practice.

1.6 I can explain why it is important to backup data securely

Candidates should be able to explain that digital data is easy to corrupt and delete and that hardware on which the data is stored can be stolen or fail. For this reason, backups should be taken and stored on a physically separate device from the original.

Evidence: assessor observation and spot checks of candidate back ups where relevant.

Additional information and guidance

Since data can become corrupt without the user knowing, it is possible to inadvertently destroy a good backup by overwriting it with corrupt data. For this reason, especially with important data, relying on a single backup is risky. There can also be a penalty in the time taken to get work restored from a backup. Even on systems that centrally backup your work on a server, you are then dependent on other people to get it back. It is worth considering taking a separate backup eg to a USB key of important and often used work simply because it makes it quick and convenient to restore. This has to take into account how sensitive the information might be. One change that is taking place globally is the shift from desktop systems to the internet. Cloud computing, where all important files are stored remotely on the internet, offers the possibility of centrally backing up thousands and maybe millions of user files. This means that IT users don't have to worry about back ups and restoring files because the service provider will take care of this administration for them. They still might want to back up important and often used files personally. Systems like Dropbox provide a system for synchronising files on a local computer to an internet based file store. This is useful if you have several computing devices but it also provides an effective backup. Typically 2Gb or more of free storage is provided. Dropbox is also a collaborative technology because it can be used for sharing files with other people.

1.7 I ensure that my personal data is backed up to appropriate media

The candidate should be able to show that the back up(s) applied to their work are effective eg it might be that the local network is backed up with tapes on a regular basis with the tapes taken off site. They should show that they are aware that their work is included and that they backup important files to USB or similar media on a personal basis.

Evidence: assessor observation and spot checks of candidate back ups where relevant.

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 through reference to candidate e-portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

6.6 Silver Unit 5: Spreadsheets

This is the ability to use a software application designed to record data in rows and columns, perform calculations with numerical data and present information using charts and graphs. The candidate will use a range of basic spreadsheet software tools and techniques to produce, present and check spreadsheets that are straightforward or routine. Any aspect that is unfamiliar will require support and advice from others.

Spreadsheet software tools and techniques will be defined as 'basic' because: the range of data entry, manipulation, formatting and outputting techniques are straightforward; the tools, formulas and functions involved will be pre-determined or commonly used (for example, sum, divide, multiply, take away and fractions). The the structure and functionality of the spreadsheet will be pre-determined or familiar.

Example of context: A work sheet for keeping track of simple personal expenses.

Learning objectives and assessment criteria

1. Use a spreadsheet to enter, edit and organise numerical and other data	2. Use appropriate formulas and tools to summarise and display spreadsheet information	3. Select and use appropriate tools and techniques to present spreadsheet information effectively
1.1 I can identify what numerical and other information is needed and how the spreadsheet should be structured to meet needs	2.1 I can identify how to summarise and display the required information	3.1 I can select and use appropriate tools and techniques to format spreadsheet cells, rows and columns
1.2 I can enter and edit numerical and other data accurately	2.2 I can use functions and formulas to meet calculation requirements	3.2 I can identify which chart or graph type to use to display information
1.3 I can store and retrieve spreadsheet files effectively, in line with local guidelines and conventions where available	2.3 I can use spreadsheet tools and techniques to summarise and display information	3.3 I can select and use appropriate tools and techniques to generate, develop and format charts and graph
		3.4 I can select and use appropriate page layout to present and print spreadsheet information
		3.5 I can check information meets needs, using spreadsheet tools and making corrections as necessary

6.61 Assessors' guide to interpreting the criteria (Unit 5)

General Information

QCF general description for Level 1 qualifications

- Achievement at QCF level 1 (EQF Level 2) reflects the ability to use relevant knowledge, skills and procedures to complete routine tasks. It includes

responsibility for completing tasks and procedures subject to direction or guidance.

- Use knowledge of facts, procedures and ideas to complete well-defined, routine tasks. Be aware of information relevant to the area of study or work
- Complete well-defined routine tasks. Use relevant skills and procedures. Select and use relevant information. Identify whether actions have been effective.
- Take responsibility for completing tasks and procedures subject to direction or guidance as needed

Requirements

- Standards must be confirmed by a trained Silver Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their account manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 1 learner 30 hours of work to complete.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 unit.

6.62 Expansion of the assessment criteria (Unit 5)

Learning Objective 1

Use a spreadsheet to enter, edit and organise numerical and other data

1.1 Identify what numerical and other data is needed and how the spreadsheet should be structured to meet needs

The candidate should be able to take a simple practical task and identify the data needed to put together a spreadsheet to meet the needs of the task.

Evidence: candidate originated spreadsheets and/or plans identifying the required data.

Additional information and guidance

The candidate's plans should show how they will develop a structured solution to presenting a combination of numbers, charts, and text structures through spreadsheet components such as cells, rows, columns, tabs, pages and their layout. Assessors can provide templates and guidance but the candidate should at least identify the data and how it will be presented for simple cases. If candidates can describe how to structure a spreadsheet of significant complexity they are operating higher than at level 1. Typical Level 1 spreadsheets might be a model for times tables, simple balancing of accounts with sales and expenditures, producing a bar chart of rainfall data for each month of the year.

1.2 I can enter and edit numerical and other data accurately

The candidate should collect data, check its accuracy and potential for bias in simple cases and enter the data into a spreadsheet accurately. They should demonstrate these skills across several spreadsheet problems.

Evidence: candidate originated spreadsheets and documentation

Additional information and guidance

They should show capability of copying data from one cell to another, replicating data in cells and adding rows and columns to the sheet. If they can go beyond entering and editing they are operating at a higher level than the basic level 1 requirements.

1.3 I can store and retrieve spreadsheet files effectively, in line with local guidelines and conventions

Candidates should show that they can save files to sensible places in a directory structure and retrieve and open them at a later time.

Evidence: candidate spreadsheet files and assessor observations.

Additional information and guidance

The candidate should use logical names for files and directories organising their data so that it is easy to find. They should demonstrate the capability of creating a new file, naming and renaming files, printing files, opening and saving files. Ability to use "save as" to save the file in an open format such as .odc, csv, indicates higher than Level 1 operation but all candidates should have the opportunity to find out why export in open standard formats is useful. Encourage the use of information generated in a spreadsheet eg a chart or table to be used in other contexts eg a web page or blogs. Explain why attaching a spreadsheet file in a proprietary format for download is to be avoided if possible. (Spreadsheets are less problematic than complex documents from an open standards point of view because it is possible to replicate data and formulae in different formats with precision. In most cases a spreadsheet in a proprietary format can be filtered into an open format without compromising the information. The more natural it becomes for people to demand open formats, the less likelihood of abuse of a monopolistic position by a particularly powerful supplier. This work can be linked to the collaborative technologies unit through use of on-line spreadsheets such as Google Docs, Editgrid, Zohosheet, NumSum.

Learning objective 2

Use appropriate formulas and tools to summarise and display spreadsheet information

2.1 I can identify how to summarise and display the required information

Candidates should show that they can identify the use of columns and rows in tables to organise and process their spreadsheet data. They should identify simple functions such as SUM to summarise total costs or similar attributes to data sets that might be provided for them. This process will include totalling, sorting and tabulating data.

Evidence: candidate originated spreadsheets and documentation

Additional information and guidance

Since at this level, "identify" is the operative word, the implication is that they will be provided with the basic structures in which they identify specific needs. If they can originate an entire sheet themselves and show that they can produce a precise and accurate sequence of instructions to summarise data, they are operating at higher than level 1 and it could be indicative of level 2 performance.

Level 1 examples will include, identifying that a formula is needed to add up the cost of five given items and display a total. Display the total discounted by 10% in a second cell, show the cost including VAT in a third cell. Assessors will need to provide structured guidance at this level using spreadsheet templates and clear and simple instructions. Candidates should appreciate that although the calculations appear to be instant the order of calculation matters and that accuracy in the figures is important too.

2.2 I can use functions and formulas to meet calculation requirements

Candidates should be provided with opportunities to use a range of spreadsheet functions including the arithmetic operators add, subtract, multiply, divide, sum, average, and round. The formulae can be given as long as the candidate can then use them to meet the calculation requirements.

Evidence: candidate originated spreadsheets and documentation

Additional information and guidance

They should use simple formulae to design models where they can make changes to variables and explain the impact. In keeping with level 1 they can be provided with structured templates as guidance. An example might be to provide a model of a multiplication table such that changing a single variable produces a different times table, getting the candidate to modify the given table in order to produce others. If they can tackle such problems successfully from a general brief they are operating at "Higher" level, if they can do so with structured guidance it is Level 1 (Silver).

2.3 I can use spreadsheet tools and techniques to summarise and display information

Candidates should use spreadsheets to summarise and display information from data that is provided for them or they have gathered themselves. They will provide a logical structure to their work so they can present it clearly to a familiar audience.

Evidence: candidate originated spreadsheets and documentation

Additional information and guidance

Work in a spreadsheet can be shared collaboratively in Google Docs or other collaborative technologies to link into the collaborative technologies unit. An example of gathering their own data could be a survey of people's heights with responses classified by age, gender or some other grouping. They might show this in a table and produce borders and text styles to display the information effectively. They could use an appropriate chart embedded in the spreadsheet next to the tabulated data. In keeping with level 1 qualifications these results can be supported through instructions in a range of formats and the provision of structured support. They should appreciate that spreadsheets are most useful for numerical data and for relatively small data sets. For data that is very extensive and with a range of data types, database management systems are more appropriate.

Learning objective 3

Select and use appropriate tools and techniques to present spreadsheet information effectively

3.1 I can select and use appropriate tools and techniques to format spreadsheet cells, rows and columns

Candidates should be able to identify and select the appropriate spreadsheet options to format their work clearly and effectively. This will be adjusting row and column and cell widths, style attributes for tables and alignment options.

Evidence: candidate originated spreadsheets and documentation

Additional information and guidance

In keeping with the description of level 1 qualifications, tasks should be well-defined and routine with appropriate guidance. If they plan and develop structured solutions to problems, combining several spreadsheet tools and techniques, ensuring appropriate presentation, they are operating higher than the required level. They should be aiming to include use of numbers, currency, percentages, number of decimal places, font and alignment, borders and shading, height, width, borders and shading. Self-sufficiency in a wide range of formatting to produce clear and attractive presentations of data indicates "Higher" performance.

3.2 I can identify which chart or graph type to use to display information

Candidates should be able to identify appropriate charts to display their data. (PLTS). This should include histograms, bar charts, pie charts, line graphs.

Evidence: candidate originated spreadsheets and documentation, assessor observations.

Additional information and guidance

- A histogram typically shows the quantity of points that fall within various numeric ranges (or bins).
- A bar chart uses bars to show frequencies or values for different categories.
- A pie chart shows percentage values in terms of the size of a slice of a pie.
- A line chart is a two-dimensional scatter plot of ordered observations where the observations are connected following their order.

In the case of continuous experimental data they can either use "trend lines" eg in Excel or OpenOffice Calc or they can add a line manually to a scatter chart using a drawing program. Conceptually at this level the latter is likely to be more accessible as regression is mathematically at a higher level than expected here and using this feature of spreadsheet software is indicative of Level 2 and higher. However, we do not want to encourage bad and incorrect practice by having candidates join up points on charts that represent continuous functions and the only reason for the scatter is experimental uncertainty in the measurements. Assessors might want to refer to the link

<http://www.comfsm.fm/~dleeling/statistics/notes004.html>

This gives background beyond the requirements of Level 2 but will help assessors less confident in mathematics to have appropriate expectations. In general, level 1 learners should be guided to identify the distinction between a chart for continuous variation and one for discrete data points in simple common examples. Continuous variation occurs in situations where there is a continuing change in one variable as a result of change in another. For example, distance travelled from a fixed point by a car travelling at constant speed. Here the distance varies continuously depending on time elapsed from the start. Sample measurements can be taken at any time and they will still fit closely to the same pattern. The appropriate chart is a scatter chart with a line of best fit to the data. The line represents the continuity of the data averaging the uncertainty in the measurements. Candidates should definitely not use pie charts and bar charts to represent such situations. In a situation where the measurement is of a discontinuous variable, eg the rainfall pattern over a year, a bar chart or a pie chart is appropriate but not a best fit line. We can not make any assumptions about the pattern of rainfall within a month. All the rain might have come down on the first day, the last day or some random set of days. For schools, it would be a good idea to co-ordinate the development of IT skills for drawing charts with work in mathematics and science. Balance is important and so there is a need to be careful that one type of chart is not being over-used leading learners to think that all data can be represented in that particular format.

There are also opportunities here to apply IT functional skills. A candidate could use a spreadsheet and chart drawing program to produce the chart and then use the image of the chart in a web page together with a table of values taken from the spreadsheet to present information to a wider audience, for example in a blog or e-portfolio. This would provide evidence of a range of the criteria and it is this flexibility and self-sufficiency that we are aiming to achieve. The difference between Level 1 and Level 2 is that at Level 2 the candidate should be self-sufficient in producing appropriate charts from their data whereas at level 1 candidates will need structured support, operating in routine contexts. They will need guidance when a new or unfamiliar context is presented. The level 1 candidate might simply show that they can select an appropriate chart for a particular familiar context from a limited choice provided by their assessor.

3.3 I can select and use appropriate tools and techniques to generate, develop and format charts and graphs

Candidates should show capability of producing the chart types they identify. They should be able to present information with title, axis titles, and legend for a specific purpose that has been practised and has a familiar associated context and target audience.

Evidence: from their files and web pages.

3.4 I can select and use appropriate page layout to present and print spreadsheet information

Candidates should show capability of selecting pre-determined spreadsheet page layouts to present information including size, orientation, margins, page numbers, date and time for a specific purpose and familiar audience.

Evidence: from their files and web pages.

Additional information and guidance

This implies the use of prepared spreadsheet templates which are provided as a vehicle for particular spreadsheet problems.

3.5 I can check spreadsheet information meets needs, using IT tools and making corrections as appropriate

Candidates should evaluate the quality of their solutions against given criteria including checking accuracy of numbers, formulas and any text; accuracy of results; suitability of charts and graphs.

Evidence: from their files and web pages

Additional information and guidance

This can be linked back to the evaluation criteria in Improving Productivity Using IT. If they can do this with their own criteria and without much guidance they are operating higher than the specified level and might be ready for L2 assessment.

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 through reference to candidate e-portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

7. Detailed Guidance - Gold - Level 2

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

7.1 Qualification structure for Level 2

Unit Title	Credit value L1, L2, L3	Comments
Improving Productivity Using IT	4	Mandatory unit (Level 2)
Web Site Software	4	Mandatory unit (Level 2)
Using Collaborative Technologies	4	Mandatory unit (Level 2)
IT Security for Users	1, 2, 3	Optional unit (Level 1, 2, 3)
Spreadsheet software	3, 4, 6	Optional unit (Level 1, 2, 3)
Specialist Software	2, 3, 4	Optional unit (Level 1, 2, 3)
Word processing	3, 4, 6	Optional unit (Level 1, 2, 3)
Using the internet	3, 4, 5	Optional unit (Level 1, 2, 3)
Drawing and planning	2, 3, 4	Optional unit (Level 1, 2, 3)
Presentation software	3, 4, 6	Optional unit (Level 1, 2, 3)
Database software	3, 4, 6	Optional unit (Level 1, 2, 3)

Optional units can be at Level 1, 2 or 3 but must not be the same title as the mandatory units. They must provide a minimum of 4 additional credits for the standard length certificate and more for the extended certificate and diploma. This provides flexibility for different levels of attainment and particular learner interests. A high attainer might tackle level 3 units, a low attainer level 1 units. A level 1 unit might be carried forward from the Silver as long it is not already completed at a higher level. The mandatory units and selected optional units are provided below together with guidance in interpreting the criteria. Assessors planning to use other units should contact their Account Manager. There is further support and guidance available from the web site. (www.theingots.org)

7.2 Gold Unit 1 - Improving Productivity Using IT

The candidate can plan and review their use of pre-defined or commonly used IT tools for work activities that are at times non-routine or unfamiliar. As a result of reviewing their work, they will be able to devise solutions using IT tools in order to improve work productivity. Any aspect that is unfamiliar will require support and advice from other people.

A work activity will typically be 'non-routine or unfamiliar' because the task or context is likely to require some preparation, clarification or research to separate the components and to identify what factors need to be considered. For example, time available, audience needs, accessibility of source, types of content, message and meaning, before an approach can be planned; and the techniques required will involve a number of steps and at times be non-routine or unfamiliar.

Example of context – an improvement may be to present their work as an e-portfolio so that it is easier to demonstrate their achievements and keep them up to date.

Learning objectives and assessment criteria

1. Plan select and use appropriate IT systems and software for different purposes	2. Review and adapt the on-going 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 that 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		

7.21 Assessors' guide to interpreting the criteria (Unit 1)

General Information

QCF general description for Level 2 qualifications

- 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.

Requirements

- Standards must be confirmed by a trained Gold Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their Account Manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 2 learner 40 hours of work to complete.

Assessment Method

Assessors can score each of the criteria N, L, S or H. N indicates no evidence. 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 a S on all the criteria to achieve the full award.

7.22 Expansion of the assessment criteria (Unit 1)

Learning objective 1

Plan select and use appropriate IT systems and software for different purposes

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.

Additional information and guidance

Candidates might describe the audience at which they are targeting their work and any aspects of the work that make it particularly suitable for the audience eg

"I presented a science investigation using a web page with links to references so that a future employer can see the quality of my work simply by knowing the URL".

"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 on a web page to present part of an e-portfolio as opposed to the style used for chat and instant messaging of friends. They 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 eg from a list of options or other supporting structures. Their documented web pages, 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.

Additional information and guidance

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. They might need skills related to eg 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 (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.

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 eg a web page, document file or IT planning software.

Additional information and guidance

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 an e-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.

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: from content of their web pages describing these factors and considerations in their planning

Additional information and guidance

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: from content of their web pages and day to day working files indicating effective results and appropriately selected supporting resources.

Additional information and guidance

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.

1.6 I can describe how the purpose and outcomes have been met by the chosen IT systems and software applications

Candidates should describe how the tools and systems they chose have been

successful in supporting their project outcome as part of an evaluation.

Evidence: from documented evaluations

Additional information and guidance

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 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 eg as a podcast.

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: from documented descriptions

Additional information and guidance

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.

Learning objective 2

Review and adapt the on-going use of IT tools and systems to make sure that activities are successful

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

Additional information and guidance

One way to approach this would be for the candidate to maintain a Blog as a diary supporting their work. They can use the INGOT 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 e-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: from documented description conforming to the criterion and guidance

Additional information 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. The characteristic of Gold Level 2 as opposed to Silver 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: from documented descriptions conforming to the criterion and guidance

Additional information 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 or judgement about the success of their work is recommended. They should get peers/intended audience to help them review and assess their outcomes.

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: from documented descriptions conforming to the criterion and guidance

Additional information 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 eg 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.

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: from third party feedback, analysis of strengths and weaknesses and any other relevant documented descriptions conforming to the criterion and guidance

Additional information 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.

Learning objective 3

Develop and test solutions to improve the on-going use of IT tools and systems

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: of review through documentation of evaluation in web pages and/or day to day files.

Additional information and guidance

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 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.

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: of descriptions through documentation in web pages and/or day to day files.

Additional information and guidance

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 house" principle.

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: 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.

Additional information and guidance

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: through documented evaluation.

Additional information and guidance

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.

Moderation/verification

The assessor should keep a record of assessment judgements made for each candidate using the on-line mark book. They should make brief notes of any significant issues for any particular 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 through reference to candidate portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

7.3 Gold Unit 2: Web Site Software

The candidate will select and use a wide range of website software tools and techniques to produce multiple-page websites. Any aspect that is unfamiliar may require support and advice from others. Website software tools and techniques will be defined as 'intermediate' because the software tools and functions involved will at times be non-routine or unfamiliar. The choice and use of development techniques will need to take account of a number of factors or elements and the candidate will take some responsibility for planning the website, creating or altering the template, inputting, manipulating, linking and uploading the content.

Examples of context: Create a multiple page e-portfolio linking to external sources to reference and support their work.

Learning objectives and assessment criteria

1. Create structures and styles for web sites	2. Use web site software tools to prepare content for websites	3. Publish web sites
1.1 I can describe what web site content and layout will be needed for each page	2.1 I can prepare content for my web pages so that it is ready for editing and formatting	3.1 I select and use appropriate testing methods to check that all the elements in my web site work as planned
1.2 I can plan and create web page templates to layout	2.2 I can organise and combine information needed for web pages including across different software	3.2 I can identify any quality problems with web sites and how to respond to them
1.3 I can select and use web site features and structures to help the user navigate round web pages with the site	2.3 I can select and use appropriate editing and formatting techniques to aid both clarity and navigation	3.3 I can select and use an appropriate programme to upload and publish the web site
1.4 I can create select and use styles to keep the appearance of web pages consistent and make them easy to understand	2.4 I can select and use appropriate development techniques to link information across pages	3.4 I can respond appropriately to problems with multiple page web sites.
1.5 I can describe how copyright and other constraints may affect the web site	2.5 I can change the file formats of documents appropriately for content	
1.6 I can describe access issues that might need to be taken into account	2.6 I can check that my web pages meet needs using IT tools and making corrections as necessary	
1.7 I can describe what file-types to use for saving content		
1.8 Store and retrieve files effectively, in line with local guidelines and conventions where available		

7.31 Assessors' guide to interpreting the criteria (Unit 2)

General Information

QCF general description for Level 2 qualifications

- 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.

Requirements

- Standards must be confirmed by a trained Gold Level Assessor or higher.
- Assessors must as a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their Account Manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 2 learner 40 hours of work to complete but this could be shorter in the case of candidates who already have experience or have the capacity for faster than average progress.

Assessment Method

Assessors score each of the criteria N, L, S or H. N indicates no evidence. 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.

7.32 Expansion of the assessment criteria (Unit 2)

Learning Objective 1

Plan and create web pages

1.1 I can describe what web site content and layout will be needed for each page

Candidates should provide evidence of planning that includes a description of the content required in each of several web pages.

Evidence: through web pages produced and their content.

Additional information and guidance

They should understand why using web pages to record and display their work has

advantages over a paper file. For example, when constructing an e-portfolio they can make a link from the first index page to a planning page where they describe the content they will display on several pages of their work. Links between pages enable them to build references and relationships between a wide range of their work. On the planning page they might also provide outline details of the layout eg Page 1, Subject title - Top Centre, Heading 1 style, graphic image aligned left, 150x150 pixels with caption, text providing brief introduction of the subject. The planning page itself might contain images scanned from drawings or sketches produced in the planning process. This is distinguished from Level 1 work by being multiple page, descriptive of the content and self-sufficiently maintained.

1.2 I can plan and create web page templates for a layout

Candidates should provide evidence that they can create pages to a pre-determined template described in their planning.

Evidence: consistent formats and layout for several web pages eg in an e-portfolio.

Additional information and guidance

This might be based on a theme with a basic layout to which they will add content. It is generally a good idea to keep the basic layout simple. There is no need to make the template complex. Since HTML defines the layout of the page in conjunction with CSS in the Drupal environment and editing the CSS is beyond level 2, we are mainly interested in the layout over which the user has control. One way to make a page template would be to edit the page using CK editor in Drupal and then switch to the plain text editor and cut and paste the HTML there into a plain text editor and save it. This file can then at a later date be pasted into any web page editor to reproduce the page layout. Candidates can use web page editors such as Dreamweaver or Kompozer. Kompozer is Open Source and available for Windows, Mac and Linux from <http://kompozer.net/download.php>. Using Googlesites is another possibility. Please discourage candidates from designing web pages in the wrong tools (MS Word or Publisher). While many of these can edit HTML, they usually produce very inefficient code and we want candidates to choose appropriate tools not just things that happen to be familiar, particularly at Level 2.

1.3 I can select and use web site features and structures to help the user navigate round web pages with the site

Candidates' web pages should include a minimum of lists, icons, links and help text to enable a user to navigate through the information they provide.

Evidence: web pages with features and structures to aid navigation.

Additional information and guidance

They should be able to show multiple pages of content similar to that in a school exercise book or file but with links and help for navigation. Drupal has a book page feature and it would be a good idea to use this. Books provide the facility to add "child pages" which link automatically to the Book. This provides a set of logical links for the book.

1.4 I can create select and use styles to keep the appearance of web pages consistent and make them easy to understand

Candidates should be familiar with pre-defined styles that are available such as h1, h2 etc. They should use these elements consistently across pages to create an

overall style.

Evidence: web pages exhibiting consistent styles.

Additional information and guidance

They should be familiar with the concept of cascading style sheets and how some simple styles are defined. Evidence from implementation of styles and content in web pages they create.

1.5 I can explain how copyright and other constraints may affect the web site

Candidates should be able to explain how copyright and licensing work together.

Evidence: from content of web pages and optional knowledge based tests.

Additional information and guidance

When they originate new work they own the copyright and they can specify how their work can be used by licensing it. They can also assign the copyright to someone else. This is the case with the INGOT community learning site. Candidates assign copyright to The Learning Machine who then license it for sharing. If each person licensed their work in different ways it would make it almost impossible to re-use any of the material because anyone doing so would have to try and trace the originator and ask permission or at least find the license conditions. By transferring copyright to one entity it is far easier to give permission to reuse content through a single license and all materials on the INGOT community resource site is intended to be licensed Creative Commons Share Alike. Any work that is not original should be referenced, not just because plagiarism is grounds for disqualification in gaining qualifications but also because the owner can sue the person using their work without permission.

Fair use means that short extracts can be used from acknowledged work. The digital age has made copyright and publishing very "hot" topics because it is so easy to copy digital information without loss of quality. Candidates need to check all content they use to make sure the appropriate permissions are in place and that work other than their own is properly referenced. One of the big advantages of using Open Source software is that the risk of inadvertently breaking the law is much reduced since you are encouraged to share the work. For this reason copyright licensing that is designed to encourage sharing is sometimes referred to as copyleft. Copyleft work is licensed so that if you re-use it by adding to it, the subsequent work also has to be licensed in the same way. The intention is that the benefits of sharing are then passed on to subsequent work built on the original. The GNU/Linux operating system and associated applications are a good example of copyleft in action as is Wikipedia for content. In summary, candidates should NOT have any copyright material in their pages that is not licensed to share or originated by themselves. They should demonstrate a clear understanding of what is and is not legal to use based on its license.

Other constraints are the need to interoperate with other people so all content should conform to open standards. Avoid having proprietary files such as .ppt or .pub for download. For usability ensure colours have sufficient contrast to be viewable by colour blind people and that there are text descriptions with graphics for accessibility by blind people.

1.6 I can describe access issues that might need to be taken into account

Candidates should know that web sites should employ open standards that are

universally supported across as many web browsers as possible. They should understand the need for putting alternative text with graphics for the sight-impaired and that choice of colours is important.

Evidence: from content of web pages and optional test on accessibility and open standards.

Additional information and guidance

They should realise that if a web page only displays in one browser, no matter how popular, they are cutting out part of the potential audience for their work. They should avoid using proprietary data files for making data available for download. The safest files to use are those that have ISO standards associate with them. Partially sighted people might not be able to see graphic images and so when inserting a graphic always put in the alternative text. There are programs that can read this text to tell a blind person about the images they can't see. If links are made directly from images, provide a text based alternative. Be careful with colours, particularly for text. Generally, theme colours will be chosen to give sufficient contrast or differences so they can be seen by colour blind people. At this level the most important issues are to make the site compliant with standards and suitable for the sight impaired. There are many other issues and more can be learnt at http://www-03.ibm.com/able/access_ibm/disability.html and <http://www.anybrowser.org/campaign/abdesign.html>.

1.7 I can describe what file types to use for saving content

Candidates should be able to describe at least the following file types as open standards related to the web. HTML, .txt, pdf, .jpg, .png, .svg, .mpg .mp3. (Note .mp3 is an ISO standard but there are a number of patent issues associated with it. Worth mentioning .ogg as an up and coming fully open alternative). There are too many possible file types to include each in detail.

Evidence: through documentation in web pages and optional test

Additional information and guidance

Why are we not including .doc, .xls, .ppt? While these file formats are very widely used they are often misused. Take a training session where a presentation is used to convey information to an audience of 100 people. In most cases this presentation will be a simple slide set in Powerpoint and it will make no use of Powerpoint's more advanced features. Distributing the file to delegates means each one has to manage that file individually and in practice the files will probably be lost. Furthermore, if the information in the presentation can be referenced to other information the use of a desktop file based program makes this much less likely. In contrast, any update to the information presented in a web page is immediately shared with everyone. We want learners to think more critically (PLTS) about how they use information rather than simply choosing an application that happens to be popular or familiar.

A presentation could be simply a set of linked web pages. To provide that to the audience simply means making the URL available. The information can be linked to any other information. All that is needed to access it is a web browser eg on a Smartphone. No need to buy any expensive software or have a more powerful computer. If greater organisation of slides is needed, there are free on-line presentation applications such as Google Docs which can exchange presentations with Powerpoint if there is no internet connection available. Make the presentation in Google Docs for sharing, export to Powerpoint or OpenOffice Impress for giving the presentation away from the internet. This of course requires different attitudes and

different ways of working which is difficult for older people but the trend is to move to the web so for young people they will find an increasing range of free software tools on the internet to support this type of work.

We are focusing on the open formats because in terms of transfer of technological skills and knowledge they have a specific importance. They enable wider sharing of information with greater inclusion and there is a global trend to open standards. Learners should be discouraged from attaching files to pages when the information can easily be presented in the page itself. While a word processor or desktop publisher will enable more sophisticated layout options and producing pdf files will preserve these, it is quicker and cleaner to just present the information in a standard web page, perhaps with the option to produce pdf if needed. It is better for the environment to reduce printing to paper and the main reason for producing pdf is to print to paper not for viewing on a screen. Most information on web sites is simply viewed, especially by the younger generation, let's not encourage the use of file formats designed for paper when paper is generally unnecessary. We can produce pdf files from web pages in any case if it really is necessary to put the content on paper.

Candidates should always consider the purpose and audience of their work (PLTS). They should understand that attaching files in proprietary formats is considered by some people to be anti-social because it is saying to users that if they don't have or can't afford some particular software application they can't access the information. Here is an element related to inclusion and equality of opportunity. Although some proprietary format providers will provide readers free of charge there is always a future possibility that once a monopoly is established they could change their policy. It is therefore much safer in the long term to support fully open standards where they exist and the trend in the industry is to do so as applications mature.

An example of a typical "grey" area is audio. Thomson Consumer Electronics and the Fraunhofer Society both claim patents related to .mp3 files. Although no royalty is currently collected simply for using the format, Fraunhofer were cited as making 100 million Euros from companies making mp3 players (all of which of course is passed on to consumers) .ogg files are a similar technology but fully open. More players are being produced that can play .ogg files because there is no royalty to pay and even if .ogg never becomes as popular as .mp3 it serves a valuable purpose because it makes it very unlikely that the owners of .mp3 could successfully levy further charges eg for the use of .mp3. Currently the confusing range of video formats presents similar problems. Each company is trying to establish a monopoly by making its format the standard. If any were to succeed they could charge every time anyone watches any film or video clip. Fortunately, the presence of open standards such as mpeg and no absolutely dominant player results in an impasse where in nearly all cases video playback software is free of charge and is often cross-platform.

In short, having an open standard breaks the monopoly helping keep costs down and development standards high by promoting competition. Candidates should be able to describe text, graphics, audio and video formats suitable for use on the web and appreciate the basic problems of proprietary formats and monopolies.

1.8 I can store and retrieve files effectively, in line with local guidelines and conventions where available

Candidates should be able to manage their files appropriately in the context of making web pages.

Evidence: through user accounts and use of file system.

Additional information and guidance

If they use the Learning Site they are provided with a user space and folders to store their uploaded files that can be used for display and attachments in web pages. They also have a pre-populated directory with open clip art resources. If they can manage their files here uploading and making appropriate links using reasonable names and classifications they meet this criterion. Try to ensure they combine this with other technical skills such as trimming files to best size and using open and appropriate file formats. If they are using alternative web site software, they should demonstrate similar skills in that context with the available tools.

Learning objective 2

Use web site software tools to prepare content for websites

2.1 I can prepare content for my web pages so that it is ready for editing and formatting

Candidates should demonstrate the practical capability of sourcing content including using their initiative to find out about and exploit the potential of new ICT tools and information sources.

Evidence: from web page content.

Additional information and guidance

Preparing content will be a combination of originating it themselves by typing text directly into a page editor in eg Drupal on the INGOT learning site, taking text from a text editor or word processor or an HTML editor. They should appreciate that text taken from a Word Processor might include formatting information that they had not anticipated and that HTML exports from Word Processors and Desktop Publishers are notorious for producing inefficient HTML. It is better to export the text into a text editor or as a plain text file and add the HTML tags in a tool designed for the purpose.

In general, this criterion should not be awarded a "S" if there is general dumping of inefficiently tagged content exported from inappropriate applications. Candidates should have the opportunity to try out more than one application. For example, the Amaya project is developing a free reference application for W3C standards that can be used to view and edit web pages, Wikipedia uses Wikimedia software to do a similar job and the CK editor embedded in the INGOT learner site is similar. Access to these is free and web based and so it is easy to develop transferable skills across them.

Candidates should give consideration to size and type of video and audio files. eg it is often better to make a link to a video on a site like School Tube designed for delivering video than it is to upload the video file to a general purpose site. Evidence from the nature of the content on their web pages. We expect graphics to be reasonable size and in .jpg or png formats. A graphic 1200 pixels across will not fit on some screens and a 4 meg file is almost certainly capable of being reduced in size for better downloading. HTML should not be full of redundant tags - Don't use MS Publisher! Attention to detail produces higher quality and we want aspiration to quality.

2.2 I can organise and combine information needed for web pages including across different software

Candidates should be able to select and combine information from a range of sources to produce coherent and informative pages.

Evidence: from web pages.

Additional information and guidance

This does not mean that they have to be overly complex. Clear consistent styles and layout are better than complexity for the sake of it. They should be encouraged to use appropriate tools and check value, accuracy, plausibility and bias in information. Any appropriate tools are acceptable but there should be some diversity in the tools used. In the interests of inclusion assessors should keep in mind that there are free and open source tools available suitable for all the tasks required and that candidates can download and use these freely at home. As long as open standards are employed all information should be usable across all software whether open or closed source and pages should be usable across all web browsers. Open source tools for supporting the combining and organising information include: Inkscape, a free and open source editor for svg with .png export. svg is the ISO web standard for vector graphics and .png the web standard that supersedes .gif. GIMP is a Free and Open Source editor for most raster formats such as .jpg, bmp, png etc. Together these provide for all the 2-D web graphic design anyone is ever likely to need. Blender is a very powerful tool for 3-D but probably requires a course in its own right, it was used in support of films like Spiderman 2. Audacity is a free and open source editor for audio files. Avidemux will edit video. It is Less feature rich than Adobe Premier, but supports a good range of video file formats and does most of the things anyone is likely to need for a web site. There is a more comprehensive list of Open Source applications on the Wikipedia site with links to further information.

2.3 I can select and use appropriate editing and formatting techniques to aid both clarity and navigation

The candidate should show that they can choose appropriate tools for editing and formatting their web page content. Outcomes should be web pages that are clear and easy to navigate.

Evidence: from web pages and appropriately edited content.

Additional information and guidance

Candidates should provide evidence that they can edit 2-D graphics to suitable sizes and resolutions. They should avoid putting information on pages that will cause the page to open very slowly (Flash animations and such like should be avoided unless they really are necessary). Break information up into manageable linked pages rather than produce excessively large pages that will take a long time to load. Use thumbnail graphics linked to larger higher resolution images. Use anchors in pages to more precisely position the user when moving to particular information on the page. Overall, their pages should provide information that is easy to interpret, presented in forms that suit the intended audience and purpose of the content.

2.4 I can select and use appropriate development techniques to link information across pages

Candidates should provide evidence in their work of linking their own pages and to pages on other sites, linking to resources (eg video) on other sites and using anchors to make links to specific texts or objects on a page.

Evidence: from web pages

Additional information and guidance

This could enhance the way information is related through different subject contexts that are relevant and interesting to them.

2.5 I can change the file formats of documents appropriately for content

Candidates should show that they can export files to suitable formats for use with their web pages.

Evidence: from the use of appropriate file formats with their work.

Additional information and guidance

egs include converting WP, DTP text to plain text (possibly HTML but beware of inefficient export and redundant tags!), proprietary graphics to either .jpg or .png for web pages. With .jpg files candidates should show that they can make good decisions about the trade off between file size and image quality.

2.6 I can check that my web pages meet needs using IT tools and making corrections as necessary

Pages should be free from most obvious errors and checked for validity at <http://validator.w3.org/>. They should sample peers and or the target audience for feedback.

Evidence: error free pages that are fit for purpose.

Additional information and guidance

They should spell check text (either directly in their browser or copying it to a WP for checking). They should reference their sources of information and check that information is accurate using search engines. Get peers and other third parties to check and acting on advice make suitable amendments.

Learning objective 3

Publish web pages to the internet or an intranet

3.1 I select and use appropriate testing methods to check that all the elements in my web site work as planned

The candidate should provide evidence that they have checked their pages in at least two major web browsers.

Evidence: description of methods used documented in web pages.

Additional information and guidance

Internet Explorer and Firefox are good choices but if possible using others such as Google Chrome, Opera and Konqueror will increase confidence that work is accessible to the widest audience. They should get external opinions and feedback from potential users and use the evidence to make modifications. (eg to grammar, layout, quality of graphics etc). If it is difficult to install an alternative browser on a particular computer it is possible to set up and run a Linux live CD. Most Linux

distributions include at least two web browsers. Another alternative is to install Portable Firefox on a USB memory stick. Increasingly smart phones include a fully capable browser and so checking pages using a mobile phone is another method and will help remove stereotype views of computers as exclusively desktop machines and laptops.

3.2 I can identify any quality problems with web sites and how to respond to them

The candidate should review several web sites and identify quality issues documenting possible solutions.

Evidence: documentation in web pages.

Additional information and guidance

The candidate should be able to independently explore, develop and interpret increasingly complex web based information systems with a view to solving problems. They should consider how they would deliver the message for improvement to the web site owner to avoid conflict and maximise the chance that any problems will be fixed. They do not necessarily have to make contact with the web site owner but they should consider how such a task might be approached. Issues might include colour contrast for visual impairment, access restricted to one particular browser, slow to load and superfluous animations and introductions, inaccurate or misleading information, files presented for download in proprietary formats or that could be simply provided as information direct to web pages, lack of contact details or difficult to find. Note that formatting problems could be the web browser particularly older versions of Internet Explorer.

3.3 I can select and use appropriate tools to upload and publish the web site

The candidate should have created a multiple page site that is published on-line and should be able to replicate a similar site and publish it self-sufficiently.

Evidence: successfully published web pages.

Additional information and guidance

If candidates produce a coherent set of pages on the INGOT learner site eg a "book", their site is published. They could use Google sites (There is a guide to doing this in the INGOT learner site) or make their own site using tools such as Dreamweaver or Kompozer.

3.4 I can respond appropriately to problems with multiple page web sites

Candidates should be able to record URLs so that pages with problems can be identified. They should demonstrate the capacity to navigate to particular pages edit and save them back to the site as appropriate.

Evidence: from evaluation and documentation of their work in developing their web pages.

Additional information and guidance

Some problems might be technically too complex for this level and in such cases an appropriate response could be to contact someone with more knowledge and experience. Generally, candidates should be able to identify and fix broken links.

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 through reference to candidate e-portfolios and/or web sites. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound and that the candidate is secure across all the criteria.

7.4 Gold Unit 3: Using Collaborative Technologies

The candidate will be able to select and use a varied range of IT tools and techniques. They will use these to find and review information and send and receive messages independently, responding to work activities that are at times non-routine or unfamiliar. Any aspect that is unfamiliar will require support and advice from others.

A work activity will typically be 'non-routine or unfamiliar' because: the task or context is likely to require some analysis, clarification or research to separate the components and to identify what factors need to be considered before an approach can be planned. For example, time available, audience needs, accessibility of source, types of content and meaning. The candidate will take some responsibility for developing the input or output of information and the techniques required will involve a number of steps and at times be non-routine or unfamiliar.

Examples of context – Working on a public web page or wiki to plan, execute and evaluate the provision of information for a practical use. Manage dialogue for self-assessment and peer assessment with assessor.

Learning objectives and assessment criteria

1. Stay Safe and secure when working with collaborative technology	2. Plan and set up IT tools and devices for collaborative work	3. Prepare collaborative technologies for use	4. Contribute to tasks using collaborative technologies
1.1 I can take appropriate steps to avoid risks when working with collaborative technology, in line with relevant guidelines	2.1 I can describe the purposes for using collaborative technologies	3.1 I can describe what access rights and issues other people might have in using collaborative technologies	4.1 I can describe rules of engagement for using collaborative technologies
1.2 I can explain what risks there may be in using collaborative technology and how to keep them to a minimum	2.2 I can describe what outcomes are needed from collaborative working and whether or not archiving is required	3.2 I can assess what permissions are needed for different users and content	4.2 I can enable others to contribute responsibly to collaborative tasks
1.3 I can use appropriate methods to promote trust when working collaboratively	2.3 I can describe the roles, IT tools and facilities needed for collaborative tasks and communication media	3.3 I can set up and use access rights to enable others to access information	4.3 I can present relevant and valuable information
1.4 I can carry out appropriate checks on others' on-line identities and different types of information	2.4 I can describe the features, benefits and limitations of different collaborative technology tools and devices	3.4 I can set up and use permissions to filter information	4.4 I can moderate the use of collaborative technologies
1.5 I can identify and respond to inappropriate content and behaviour	2.5 I can describe the compatibility issues in different combinations of collaborative tools and devices	3.5 I can adjust settings so that others can access IT tools and devices for collaborative working	4.5 I can archive the outcomes of collaborative working
	2.6 I can select an appropriate combination of IT tools and devices to carry out collaborative tasks	3.6 I can select and use different elements to control environments for collaborative technologies	4.6 I can assess when there is a problem with collaborative technologies and when to get expert help
	2.7 I can connect and configure the combination of IT tools and devices needed for a collaborative task	3.7 I can select and join networks and data feeds to manage data to suit collaborative tasks	4.7 I respond to problems with collaborative technologies

7.41 Assessors' guide to interpreting the criteria (Unit 3)

General Information

QCF general description for Level 2 qualifications

- 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.

Requirements

- Standards must be confirmed by a trained Gold Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their Account Manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 2 learner 40 hours of work to complete.

Assessment Method

Assessors can score each of the criteria N, L, S or H. N indicates no evidence. 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 a S on all the criteria to achieve the full award.

7.42 Expansion of the assessment criteria (Unit 3)

Learning objective 1

Stay Safe and secure when working with collaborative technology

1.1 I can take appropriate steps to avoid risks when working with collaborative technology in line with with guidelines

Candidates should demonstrate practically that they avoid common risks.

Evidence: observation by assessors.

Additional information and guidance

Candidates should take routine precautions such as staying anonymous on-line, keeping passwords secure, following acceptable use policies. They should achieve working outcomes through following accepted guidelines for health and safety. They should respect copyright. General behaviour and actions should show due regard for risk, including cooperative behaviour and following instructions.

1.2 I can explain what risks there may be in using collaborative technologies and how to keep them to a minimum

Candidates should document a simple risk assessment and make it available from a URL. The risk assessment should include explanation of identified risks.

Evidence: simple documented risk assessment in a web page.

Additional information and guidance

Candidates should understand the risks of disclosing personal information and explain routines for reducing risk and avoiding danger. They should be aware that people do deliberately misleading things and that with a billion people connected by the internet some of them are going to be dangerous. Risks include inappropriate disclosure of personal information, misuse of images, inappropriate language, disrespect of confidentiality, power cuts, data loss. At level two there should be an ability to explain a range of risks coherently and some associate strategies to reduce risk.

1.3 I can use appropriate methods to promote trust when working collaboratively

Candidates should demonstrate that they are trustworthy through responsible behaviour and taking a balanced role in collaborative activities.

Evidence: observations by assessors. Content of documentation and team evaluations.

Additional information and guidance

Candidates should demonstrate a responsible attitude to those with whom they are working. They should provide accurate and factual information including evidence such as reliable secondary sources. They should make it clear when a view is their opinion and acknowledge that there could be different views no matter how strongly

they believe something. They should be even-tempered and sensitive to the perceptions of other people even if they are not physically present. They should demonstrate a willingness to be supportive and take a fair share of the work involved in collaborative tasks. They should have opportunities for leadership as well as being a team member.

1.4 I can carry out appropriate checks on others' on-line identities and different types of information

Candidates should be able to perform searches to check identities using cross-referencing. With well-known people there will probably be several references that can be matched. With less well-known people it could be more difficult.

Evidence: observations by assessors. Content of documentation reporting findings.

Additional information and guidance

There should be a constant awareness that multiple internet ids and aliases are easy to create. Similarly information can appear to be from an authoritative source but could be deliberately misleading. It is not unusual for the press to sensationalise and mislead to sell more newspapers and the web provides even greater scope. Candidates should have considered some specific web sites that range from good quality information to misleading and inaccurate information. (Health sites <http://www.channel4.com/entertainment/tv/microsites/Y/yawye/> provide a good source. Compare what is at the first link with the information provided here <http://www.guardian.co.uk/media/2007/feb/12/advertising.food>. The difference between Level 2 (Gold) and Level 1 (Silver) is that for Level 2, candidates should show that they can cross-reference sources in their searches and routinely provide references.

1.5 I can identify and respond to inappropriate content and behaviour

Candidates should report inappropriate content and behaviour to their assessor. They should not engage in any dialogue or information exchange that contravenes the local acceptable use policies.

Evidence: observations by assessors. Content of documentation such as Blogs and on-line reports.

Additional information and guidance

Candidates should be familiar with general "netiquette" and understand the practicalities of any acceptable use policy. They should not send out e-mail or other communications without some careful thought. Would they be happy to provide the content to that person in the flesh observed by their closest relatives? They should know how to block pop-ups in a web browser, unwanted e-mail and recognise and ignore potential malware. In significant cases they should contact someone in authority with a high level of IT experience who they can trust to make the right decision. All attempts to arrange physical meetings with young people on the strength of an internet contact should be treated as important enough to inform a responsible knowledgeable adult. All attempts to break into networks or find out and use other people's passwords should be treated as serious inappropriate behaviour.

2. Plan and set up IT tools and devices for collaborative work

2.1 I can describe the purposes for using collaborative technologies

Candidates should be able to describe the purposes of using collaborative technologies. This should include naming typical applications and describing why they are useful with particular emphasis on the collaborative function.

Evidence: content of web pages

Additional information and guidance

Candidates will undertake a project or projects supported by collaborative technologies. As long as their planning identifies the purpose of the project and why using collaborative technologies will support the outcome, this will be sufficient.

2.2 I can describe what outcomes are needed from collaborative working and whether or not archiving is required

Candidates should demonstrate that they have a clear purpose in using collaborative technologies through their general work and should have opportunities to evaluate their work and describe the outcomes of working with others saying what their role was and how it contributed to the outcome. Archiving includes the long term storage of any outcomes from the project.

Evidence: content of plans for collaborative projects.

Additional information and guidance

Their planning and documented discussions should describe outcomes such as learning from other people, sharing information, developing resources, taking part in discussions and debates. They should show they appreciate the need for archiving for example to back up important work or make a record of minutes of meetings or similar outcomes, to provide it off-line or to keep a historical record. If they use the INGOT learner site, pages are automatically stored and kept as a record every time a change is made and the whole site is backed up several times a day. Candidates should understand that if they use this site archiving is done automatically. If they use other sites they need to check and understand the position as far as archiving is concerned.

2.3 I can describe the roles, IT tools and facilities needed for collaborative tasks and communication media

Candidates should provide evidence that they can describe roles such as team leader, team member, and the broad technologies needed for collaboration eg a network, shared web pages and tools that can operate on data in standard formats.

Evidence: observations by assessors. Content of documentation and team evaluations.

Additional information and guidance

They should appreciate the need to create quality solutions that show they have considered how the information should be interpreted and presented in forms that suit audience, purpose and content. They should describe how they communicate and exchange information safely, responsibly and securely.

2.4 I can describe the features, benefits and limitations of different collaborative technology tools and devices

They should be able to describe specific hardware and software technologies that can support collaborative work, eg Mobile computing devices, headset, content management software, forum, Voice over IP and benefits and limitations of these.

Evidence: content of web page documentation describing plans.

Additional information and guidance

Analysis under the headings strengths and weaknesses is recommended to reinforce this as standard practice.

2.5 I can describe the compatibility issues in different combinations of collaborative tools and devices

Candidates should describe potential issues of compatibility between the tools they intend to use for collaborative work. They should research compatibility issues for a range of commonly used tools and report their findings in their web pages.

Evidence: from web pages.

Additional information and guidance

The candidate should appreciate the importance of open standards in collaborative tools on a global scale. While it is possible to achieve compatibility through highly integrated proprietary standards from a single source or cartel of vendors it is very risky to do so. The bigger the data systems those interests control the greater their power in relation to the user. For this reason the trend is to migrate to open standards and the success of the internet is largely attributable to the fact that its core technologies are based on open standards. W3C, The World Wide Web Consortium, founded and headed by Sir Tim Berners-Lee is the main international standards organization for the internet.

If collaborative tools adopt open standards there are likely to be fewer compatibility problems and it doesn't force everyone to buy technologies from a single supplier who owns a particular standard. A good example of a proprietary standard that for a long time reduced the choice of Word Processors to just MS Word is .doc. It is now being replaced with XML based standards that are open for everyone to use. This makes it more likely that there will be more choice of Word Processors in the future with better integration of Word Processing documents with the internet and other open technologies.

File formats and data structures are one key aspect of compatibility, another is protocols. Protocols are rules used by computers to communicate with each other across networks. They are standards that control or enable the connection, communication, and transfer of data. If a protocol is secret and owned by one supplier it enables that supplier to monopolise all the computer technologies using the protocol. A good example of an open standard protocol is HTTP seen at the beginning of each web address. HyperText Transfer Protocol defines how messages are formatted and transmitted on the internet, and what actions web servers and browsers should take in response to various commands. For example, when you enter a URL web address in your browser, this actually sends an HTTP command to the web server directing it to fetch and transmit the requested web page. Imagine if

you had to pay a royalty to a single company every time you used HTTP or if the protocol was secret so that only one company could make web servers and web browsers. Indeed for a time there was very little web browser development because Internet Explorer had almost 100% of the market. Now with competition from Firefox, Safari and Google Chrome, Internet Explorer is being much more rapidly developed and improved. This is why it is important for web pages to conform to W3C standards rather than the way any particular browser behaves. Firefox is a good reference standard because it adheres strictly to the standards and since it is open source it is free for use and free to be improved by the community.

If a browser owned by a single commercial interest has a big market share, it can break the standards such that web sites also have to break the standard for their pages to be properly displayed and then competitor browsers are rendered useless. Fortunately that danger now seems to have passed and there is increasing pressure for all browsers to properly support the W3C standards that are independent of particular commercial interests.

In summary, the candidate should show evidence of researching information about compatibility between collaborative tools and report their findings in web pages (Blogs or e-portfolios). This will require processing large quantities of data using search engines and demonstrating web page skills to present their learning effectively.

2.6 I can select an appropriate combination of IT tools and devices to carry out collaborative tasks

Candidate should be able to choose appropriately from a range of available tools.

Evidence: from web pages, blogs, e-portfolios

Additional information and guidance

The candidate's work should focus on using the internet as a collaborative medium using tools such as content management systems, forums, blogs, text editor and graphics editor to produce useful information systems for other people through communication and exchange of information that is safe responsible and secure.

2.7 I can connect and configure the combination of IT tools and devices needed for a collaborative task

The candidate should show that they can set up and configure tools to meet their own and other people's needs to support their projects and solve problems.

Evidence: observations by assessors. Content of documentation.

Additional information and guidance

For example, they might set up a buddy list in a social networking site in order to find friends quickly. They might set up a shared web page so that their group can contribute to its content in collaboration with people on other sites. They might set up a new discussion thread in a forum so that people can contribute from multiple sites. They might set up Skype on a computer to contact other people and discuss their project.

Learning objective 3

Prepare collaborative technologies for use

3.1 I can describe what access rights and issues others may have in using collaborative technologies

The candidate should be able to describe why different rights are needed for different users in a collaborative community.

Evidence: descriptions in plans preparing their projects.

Additional information and guidance

Inexperienced users could, for example, damage the system if given administration rights. Some people might appear trustworthy but they might damage systems wilfully if given Administrator rights. Some information could be confidential to particular groups of people. There is a trade off between convenience of free use and the need for security.

3.2 I can assess what permissions are needed for different users and content

Evidence: descriptions in plans preparing their projects. Setting up a real account on a collaborative site.

Additional information and guidance

Candidates should consider what information a system might require and what information might be mandatory when setting up a new account in a collaborative system. For example, an e-mail address in order to securely send a new password, contact phone number, a strong password, a user name or real name.

3.3 I can set up and use access rights to enable others to access information

The candidate should show that they have understood terms and conditions, registered an account with their id on a system that allows them to share information with other people and enables others to share their information.

Evidence: content of e-portfolios and web pages

Additional information and guidance

They should appreciate issues such as what personal information they make available. It is strongly advised that they do not make their e-mail address publicly visible (or they will get swamped with spam apart from any other dangers) and they do not give out their real name or details of physical locations and times where they could be found. Google accounts provide free facilities to try out a lot of these features. If there is a concern about Google's ownership of user information, simply don't include anything that is sensitive. Exploration with non-important information is perfectly possible.

3.4 I can set up and use permissions to filter information

The candidate should show that they can set up a "buddy list" or similar system to make connections with friends or colleagues in order to filter the information that

comes with being part of a large community.

Evidence: from user accounts, assessor observation.

Additional information and guidance

It is not very difficult to set up an entire collaborative web site in Drupal or similar content management software. Any candidate that can do this and show that they can set up permissions through the administrator account is operating at a level higher than Level 2.

3.5 I can adjust settings so that others can access IT tools and devices for collaborative working

The candidate should enable themselves and others to develop efficient and effective ICT- based solutions through the use of collaborative technologies.

Evidence: from assessor observations and successful use of collaborative tools.

Additional information and guidance

They should know that a wide range of hardware can be used to access web based collaborative technologies, from "Smartphones" to desktop PCs running a range of operating system software. There is a wide choice of tools. They are then in a position to advise others on what equipment might be appropriate. For example, they can have more than one web browser available just in case one can't access something or formats some pages badly. With free and open source software and machines with masses of disc space there is no reason to restrict the tools available and readiness for future change is supported by choice and experience. Candidates should be aware that the themes and colours they choose for web pages can affect access, eg colour blind people might not be able to tell the difference between two primary colours. Default type size should be appropriate. They should show they can use CTRL+ and CTRL- to make web page text larger or smaller. In Google docs they can share a spreadsheet or other application by inviting other people to participate as observers or editors.

3.6 I can select and use different elements to control environments for collaborative technologies

Candidates should be able to choose themes and copy HTML tagged text to replicate particular effects. This technique is used regularly to add logos and links such as satellite maps and video links to web sites.

Evidence: observations by assessors. Content of documentation and team evaluations.

Additional information and guidance

Candidates should have opportunities to copy standard HTML to provide specific effects on pages and optionally building short Javascript programs to make pages interactive. They should be aware of environmental factors such as lighting and positioning of hardware in terms of safe and efficient working.

3.7 I can select and join networks and data feeds to manage data to suit collaborative tasks

Candidates should be able to subscribe to relevant networks, mailing lists and forums to support collaborative working.

Evidence: observations by assessors. Contributions to forums, mailing lists or or similar networks.

Additional information and guidance

Candidates should network with others in order to systematically analyse the information requirements to solve a problem. They should work collaboratively to manage data, exploring it and developing it to produce a solution. The solution could be presented through a shared web page. This can be a public page on the INGOT learning site, a wiki page or a page on any community web site suitable for collaborative working. Candidates should demonstrate that they have considered RSS (Really Simple Syndication) for their product and summarise any decision to use or not use RSS on the basis of some understanding of its principles.

Learning objective 4

Contribute to tasks using collaborative technologies

4.1 I can describe rules of engagement for using collaborative technologies

The candidate should provide a description of the conditions and any constraints on working with collaborative technologies.

Evidence: descriptions in web pages and planning documentation.

Additional information and guidance

Candidates should demonstrate an appreciation of taking different roles in a team approach using collaborative technologies and agreeing the roles at the start of a task. They should understand this in the context of more general netiquette and considerations of safety. If working with an international project, one rule might be that all communication is in English. The acceptable use policy will be relevant here.

4.2 I enable others to contribute responsibly to collaborative tasks

Candidates should demonstrate the capacity to work with others and to enable them to contribute effectively.

Evidence: observations by assessors and success of collaborative tasks where the candidate is involved.

Additional information and guidance

Candidates should start by working in an identified team and providing a good example to others in terms of follow the rules of netiquette, respecting others contributions, avoiding over-domination or under-participation. When acting as a team leader they should show the capacity to bring others in and ensure that there are balanced contributions. They should accept criticism graciously and work on improving weaknesses. When acting as a team member they should support the leader and help maintain the effectiveness of the working group including reviewing, modifying, and evaluating work as it progresses. Evidence from assessor observations and the success of tasks requiring a team approach using collaborative technologies.

4.3 I can present relevant and valuable information when working on a collaborative task

The candidate should be able to identify specific and individual contributions that they made that were useful to the task.

Evidence: from assessor observations and content of pages.

4.4 I can moderate the use of collaborative technologies

Candidates should show initiative in reporting inappropriate content, checking posts and other material to ensure that it falls within the guidelines for acceptable use. They should be provided with the opportunity to act as moderator for their group in a significant part of a collaborative task.

Evidence: all work presented falls within the acceptable use guidelines.

4.5 I can archive the outcome of collaborative working

Candidates should appreciate that versioning control in sites such as the INGOT community site and Wikipedia save versions of web pages each time they are saved. This means that there is an automatic archive of their work and the history of its development. They should supplement any tasks and projects by describing the development process in blog pages or an e-portfolio.

Evidence: from web pages, blogs, e-portfolios.

4.6 I can assess when there is a problem with collaborative technologies and when to get expert help

Candidates should take a systematic approach to solving problems with the technology. Routine checks should include power connected, reboot of computer if hung, are other machines on the network working as normal? For software problems they should be encouraged to search appropriate internet groups where problems are likely to be discussed. If they can solve most problems self-sufficiently through internet searching they are operating at higher than Level 2.

Evidence: from assessor observation, blog entries, web page descriptions.

4.7 I respond to problems with collaborative technologies

Candidates should demonstrate a willingness to use their initiative to achieve solutions to their technical problems working collaboratively with their peers and others and asking more experienced users.

Evidence: from assessor observation.

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 through reference to candidate e-portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

7.5 Gold Unit 4: IT Security

This is the ability to protect hardware, software and the data within an IT system against theft, malfunction and unauthorised access. The candidate will be able to identify day-to-day security risks and key laws and guidelines that affect the use of IT. They will use simple methods to protect software and personal data (eg risks from people getting access to data who are not authorised). They will identify the risk from viruses or from hardware not working properly and take simple steps to remedy the situation.

Examples of context: Being able to describe an effective backup strategy for their files.

Learning objectives and assessment criteria

Select and use appropriate methods to minimise security 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

7.51 Assessors' guide to interpreting the criteria (Unit 4)

General Information

- 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.

Requirements

- Standards must be confirmed by a trained Gold Level assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their account manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 1 learner 20 hours of work to complete.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 unit.

7.52 Expansion of the assessment criteria (Unit 4)

Learning objective 1

Select and use appropriate methods to minimise security risk to IT systems and data

1.1 I can describe security issues that might threaten system performance

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.

Additional information and guidance

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.

Virus checkers for Linux are targeted on servers that provide information to Windows 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 the security of 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 (eg 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.

Additional information and guidance

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 eg 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 associated with widespread use of technology

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)
- Providing personal information on public networks that could enable criminals personal access to individuals

Evidence: description in web pages, assessor observations.

Additional information and guidance

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 securely in their day to day work.

Evidence: assessor observations.

Additional information and guidance

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.

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

Additional information and guidance

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.

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. eg 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.

Evidence: from descriptions in web pages and assessor observation of carrying out the descriptions in practical every day work.

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 through reference to candidate e-portfolios . Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

7.6 Gold Unit 5: Spreadsheet Software

The candidate can select and use a wide range of spreadsheet software tools and techniques to produce, present and check spreadsheets that are at times non-routine or unfamiliar. Any aspect that is unfamiliar may require support and advice from others.

The range of data entry, manipulation and outputting techniques will be at times non-routine or unfamiliar. The tools needed to analyse and interpret the data require a basic knowledge and understanding of mathematical, logical, statistical or financial formulas and functions. The user will take some responsibility for setting up or developing the structure and functionality of the spreadsheet.

Example of context: Working with peers to aggregate data collected from several questionnaires in a shared on-line work book consisting of several sheets.

Learning objectives and assessment criteria

1. Use a spreadsheet to enter, edit and organise numerical and other data	2. Select and use appropriate formulas and data analysis tools to meet requirements	3. Select and use tools and techniques to present and format spreadsheet information
1.1 I can identify what numerical and other data is needed in the spreadsheet and how it should be structured	2.1 I can identify which tools and techniques to use to analyse and manipulate data to meet requirements	3.1 I can plan how to present and format spreadsheet information effectively to meet needs
1.2 I can enter and edit numerical and other data accurately	2.2 I can select and use a range of appropriate functions and formulas to meet calculation requirements	3.2 I can select and use appropriate tools and techniques to format spreadsheet cells, rows, columns and worksheets
1.3 I can combine and link data across worksheets	2.3 I can use a range of tools and techniques to analyse and manipulate data to meet requirements	3.3 I can select and format an appropriate chart or graph type to display selected information
1.4 I can store and retrieve spreadsheet files effectively, in line with local guidelines and conventions where available		3.4 I can select and use appropriate page layout to present and print spreadsheet information
		3.5 I can check spreadsheet information meets needs, using IT tools and making corrections as appropriate
		3.6 I can describe how to find errors in spreadsheet formulas
		3.7 I can respond appropriately to any problems with spreadsheets

7.61 Assessors' guide to interpreting the criteria (Unit 5)

General Information

QCF general description for Level 2 qualifications

- 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.

Requirements

- Standards must be confirmed by a trained Gold Level Assessor or higher.
- Assessors must at a minimum record assessment judgements as entries in the on-line mark book on the INGOTs.org certification site.
- Routine evidence of work used for judging assessment outcomes in the candidates' records of their day to day work will be available from their e-portfolios and on-line work. Assessors should ensure that relevant web pages are available to their account manager on request by supply of the URL.
- When the candidate provides evidence of matching all the criteria to the specification subject to the guidance below, the assessor can request the award using the link on the certification site. The Account Manager will request a random sample of evidence from candidates' work that verifies the assessor's judgement.
- When the Account Manager is satisfied that the evidence is sufficient to safely make an award, the candidate's success will be confirmed and the unit certificate will be printable from the web site.
- This unit should take an average level 2 learner 40 hours of work to complete.

Assessment Method

Assessors can score each of the criteria L, S, H. N indicates no evidence and is the default starting position. L indicates some capability but secure capability has not yet been achieved and some help is 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 unit.

7.62 Expansion of the assessment criteria (Unit 5)

Learning objective 1

Use a spreadsheet to enter, edit and organise numerical and other data

1.1 I can identify what numerical and other data is needed in the spreadsheet and how it should be structured

The candidate should collect data, recognising that it should not be taken for granted that it is accurate even if it is empirical in nature. The candidate's plans should show a degree of complexity in its structure using a combination of numbers, charts, and text to differentiate from Level 1 performance which will involve the simplest of sheets. The data should be appropriate for the task with the capacity to provide the basis for a realistic model.

Evidence: from spreadsheet files created by the candidate and documentation in web pages.

1.2 I can enter and edit numerical and other data accurately

Taking account of evaluation of the data and initial analysis they should show capability of efficiently entering and editing the data into the sheet ensuring the data is fit for purpose in their proposed model, eliminating errors.

Evidence: from spreadsheet files created by the candidate and documentation in web pages

Additional information and guidance

This work can be linked to other criteria relevant to finding and eliminating errors and on-going quality assurance.

1.3 I can store and retrieve spreadsheet files effectively, in line with local guidelines and conventions

The candidate should organise their files appropriately and self-sufficiently storing them and retrieving them routinely. At level 2 there should be an ability to take responsibility for their files and their organisation.

Evidence: from observation, their files and web pages.

1.4 I can combine and link data across worksheets

The candidate should be able to link at least two sheets of data together such that changes in one sheet result in changes in the other. This should form the basis of a model in which one process being modelled affects another. eg temperature variations in one model trigger payment of a benefit which affects budgets in another.

Evidence: from their spreadsheet files.

Additional information and guidance

This could be an opportunity to link to work with collaborative technologies. An on-line spreadsheet such as Google Docs could have a sheet for each collaborator. These sheets could be used to collect empirical data independently eg measurements in an experiment. These could then be aggregated across the sheets. Each member of the

group should demonstrate that they can make the appropriate links.

Learning objective 2

Use appropriate formulas and tools to summarise and display spreadsheet information

2.1 I can identify which tools and techniques to use to analyse and manipulate data to meet requirements

Candidates should be able to use simple functions such as SUM, AVERAGE, MODE routinely. They should know how to find more specific functions for a particular task and use the application's "help" to determine syntax and similar needs. They should be able to find suitable sort tools and charting tools. They should show that they can use fixed (absolute) cell references and find out how to implement macros to support collections of operations.

Evidence: from candidate's spreadsheet files and descriptions of work in their blogs/e-portfolios.

2.2 I can use functions and formulas to meet calculation requirements

Candidates should be provided with opportunities to use a range of spreadsheet functions including conditional statements that allow models to be built.

Evidence: from the candidate's spreadsheet files.

Additional background for assessors:

An example might be to make a model of throwing a die and recording the number of times each value is shown. This would require a random number function to generate the data copied down several rows and a conditional statement to increase a counter each time a particular number appeared.

2.3 I can use spreadsheet tools and techniques to analyse and manipulate data to meet requirements

Candidates should use the spreadsheet to provide a logical structure to obtain information from large quantities of data in the sheet that can be provided or self-generated.

Evidence: from spreadsheet files and/or on-line pages.

This could include sorting information, applying functions to process it and operating on the data to produce information in graphs and charts. Work in a spreadsheet can be shared collaboratively in Google Docs. The Google Docs spreadsheet is free and is more than powerful enough at this level. Exploring its use would be an excellent link between this unit and the unit on using collaborative technologies.

Learning objective 3

Select and use appropriate tools and techniques to present spreadsheet information effectively

3.1 I can plan how to present and format spreadsheet information effectively to meet needs

Candidates should plan the presentation of their spreadsheets to make the information easy to use by the intended audience. This might be by logically structuring sheets to summarise different views of the data.

Evidence: from the files and presentations they produce.

3.2 I can select and use appropriate tools and techniques to format cells, rows, and columns of information.

Candidate should be able to adjust column widths, freeze rows and columns so the rest of the sheet will scroll past the fixed rows and columns, format numbers to an appropriate number of decimal places and automatically display percentages from decimals. They should be able to set cell borders and embed graphs and charts to provide a clear and aesthetically pleasing presentation.

Evidence: from spreadsheet files.

3.3 I can select and format charts and graphs as appropriate to display selected information

Candidates should be able to identify appropriate chart and graph types for data in the same way as for the Level 1. They should show that they can choose the right chart for the right circumstances consistently for a full range of situations. It is highly advisable in schools to combine this with work in other subjects particularly maths and science but also humanities and arts subjects where there is a data analysis element.

Evidence: from their files and web pages.

3.4 I can select and use appropriate page layout to present and print spreadsheet information

Candidates should show the capability of producing spreadsheet page layouts to present information including size, orientation, margins, page numbers, date and time, headers and footers, including consideration of printing and page sizes.

Evidence: from their files and web pages.

3.5 I can check spreadsheet information meets needs, using IT tools and making corrections as appropriate

Candidates should evaluate the quality of their solutions including checking accuracy of numbers, formulas and any text; accuracy of results; suitability of charts and graphs and impact on their intended audience. They should seek external evaluation from peers and use the feedback constructively.

Evidence: from their files and web pages.

3.6 I can describe how to find errors in spreadsheet formulas

Candidates should check the plausibility of outcomes for obviously inaccurate results and use this to detect errors in formulas that are not picked up as syntax errors by the software. They should describe how they checked their results in their evaluation reports and should use peer review and the opinions of others.

Evidence: from their files and web pages.

3.7 I can respond appropriately to any problems with spreadsheets

Candidates should review and modify their work seeking feedback from others as their work progresses. They should document at least some of their specific projects and tasks formally in their blogs or e-portfolios to show how they have responded to feedback to fix problems and improve their work.

Evidence: from their files and web pages.

Moderation/verification

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 through reference to candidate e-portfolios. Before authorizing certification, the Account Manager must be satisfied that the assessors judgements are sound.

Glossary

Absolute cell reference - Reference to a fixed cell location in a spreadsheet such that when copying formulae to other cells the reference will always be to this cell. For example, when each cell in a range of cells has contents to be multiplied by a single variable.

Account Manager - Official at the Learning Machine who deals directly with Assessors.

AfL - Assessment for Learning. When assessment is specifically targeted on contributing to the process of learning rather than simply measuring learning outcomes.

Assessment criteria - statements against which a learner can provide evidence in support of achieving a learning outcome.

Assessor - individual authorised by TLM to make assessment judgements about the learners work.

Assessor Trainer - Individual authorised by TLM to train and provide assessor status to others.

Authentication - Checking that something is genuine eg a claimed qualification.

Award - QCF qualification that is usually 10 Credits or less.

Bronze - Collective term for Entry Level qualifications in the INGOT programme.

Certificate - QCF qualification that is usually between 10 and 40 credits.

Certificate Template - Pre-printed official paper for printing certificates obtainable from TLM

Copyleft - Licensing that encourages copyright materials to be shared and re-used.

Copyright - Ownership of original work with powers to limit its use by others.

Course - Sequence of learning often leading to qualifications

Credit value - The value of a unit of work in the QCF and EQF. Nominally 1 credit = 10 hours of study.

CSS - Concurrent Style Sheet. A method of providing styles in web pages that will give them consistent appearance.

Diploma - QCF qualification that is usually 40 or more credits.

e-portfolio - Work presented in web pages and associated attached files.

e-skills - UK Sector Skills Council for Business and IT

empirical data - data that has been measured from a primary source.

EQF - European Qualifications Framework, a metaframework to which national frameworks can be referenced.

EU - European Union

Feedback - Providing comments on work of learners, assessors and account managers.

GCSE - General Certificate in Education. The standard academic qualifications for school leavers in the UK (except Scotland)

Give a brick get a house - Expression summarising the value of sharing digital resources.

Gold - Collective term for QCF Level 2 (EQF Level 3) qualifications in the INGOT programme.

INGOT - International Grades - OpenTechnologies. A family of qualifications based on open systems and supporting their use in learning.

ITQ - The National Vocational Qualification for IT Users in the UK also International Technology Qualification in the INGOT programme.

jpg - extension for files in the compressed format of the joint photographic experts group. Pronounced Jay-peg.

LDV - Leonardo Da Vinci, a funding stream from the EU Life long learning programme aimed at innovation and development of vocational education and training.

Learning Objective - The intended outcome of a programme of study usually supported by assessment criteria.

Level - A measure of the intellectual, skills and knowledge demanded by a particular qualification.

LLLP - Life-long Learning Programme

Malware - Any code or digital resource designed for negative purpose.

Mandatory unit - A unit that must be completed in order that a qualification is achieved.

Metaframework - A framework used for reference of other frameworks but not defining specific qualifications itself.

N, L, S, H - No Evidence, Lower, Secure, Higher. A grading system for assessment criteria.

National Curriculum - A nationally prescribed curriculum, usually mandatory.

NOS - National Occupational Standards. Criteria supporting learning in a particular occupational sector.

OfQUAL - Office for standards in qualifications, the UK qualifications regulator.

Open Source - Software where the source code is freely available for viewing, copying and modification usually subject to some constraints.

Open Systems - Systems where there is no commercial control over who has access to make positive use of the system. (These systems are not open in the sense that they lack security, only that they promote freedom of use by legitimate parties)

pdf - Portable document format. A common format and open standard used for documents intended to be printed to paper.

Personalised Learning - designing learning to meet the motivation, interests and attitudes of individual learners.

PLTS - Personal Learning and Thinking Skills are generic skills and emotional intelligence

needed in everyday life rather than geared to a specific subject.

png - Portable Network Graphics. A graphic format that unlike .jpg does not lose any of the information from an image. The files are bigger but the image is always as good as when first captured.

Principal Assessor - An assessor who is accountable for standards across an INGOT Academy including the work of colleagues.

Proprietary System - A system or groups of technologies owned by a single interest, usually commercial and only accessible with the permission of the owner and most often for payment.

Protocol - a set of instructions for transferring data between technologies.

QA - Quality Assurance

QCF - Qualifications and Credit Framework. UK framework referenced to the EQF.

RSS - Really Simple Syndication. A technology for sharing information often deployed with Blogs and news feeds.

Silver - Collective term for QCF Level 1 (EQF Level 2) qualifications in the INGOT programme.

SOW - Scheme of Work. Schedule of lesson outlines covering a course of study usually leading to qualifications or other learning outcome objectives.

Spam - e-mail sent indiscriminately to many recipients irrespective of their interest in the subject matter.

Spyware - Software designed to relay information about a particular computer and its user to a third party without permission.

svg - Scalable vector graphics, the W3C open standard for the internet.

TLM - The Learning Machine, Awarding Organisation for the INGOTs.

Unit - Statements describing a coherent set of learning objectives and assessment criteria at a specified level associated with a specific topic related to a subject.

Virus - A computer program that can replicate itself and do harm to digital systems in a similar way that a biological virus does harm to living things.