

Examiners' Report/
Principal Examiner Feedback

Summer 2012

TDIP

Level 2 Principal Learning
Environmental and
Land-Based Studies

**ELBS ES201 1A, ES202 1A,
ES203 1A, ES204 1A, ES206 1A,
ES207 1A, &
ES208 1A**

**(Combined Report/
Coursework)**

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Unit 1: Environmental Influences Upon Ecosystems and Production Zones

This unit requires learners to undertake a single assignment surveying an environment to determine influences on plant and animal habitats and land use in order to support decision making. In most instances, moderators considered appropriate assessment instruments were used by centres.

Most centres did well with interesting tasks and good assessment. Some centres were very well organised in their planning and execution, student work was mostly of a really good quality and interesting scenarios/tasks added to the feeling that students had enjoyed completing the unit. There were some well set-up contexts and clear controls which enabled candidates to reach their potential and to focus on the specifics of each task. This was often helped by valuable ongoing feedback, comments and annotations. There are some good opportunities for first hand experiences for the students - unfortunately it relies very heavily on the written format which is perhaps not the best way to assess all students.

The best work came from centres that provided:

- a detailed, interesting and challenging scenario
- with a robust framework where the different tasks were broken down and all the information provided to ensure students were aware of what was expected for each task and needed to produce work at a high level
- where the LOs from the mark grid were linked to the task structure and focused on the command words. The marks for each candidate were clearly recorded against the LO

As a result there was better organisation of the students' work, giving candidates of a range of abilities and aptitudes the opportunity to achieve while showing evidence of clear individuality.

Some of the centres chose to make the framework for the students a series of tasks - whilst this seems a sensible plan much depended on the individual input of the teacher/lecturer. Where the teacher/lecturer took the tasks as a starting point for further development the results were good because the candidates were introduced to the content in a way that was understandable and manageable. However if the tasks were taken as an end product then the candidates seriously underachieved. Furthermore the tasks tended to be treated as discrete units which made it difficult for candidates to see the focus and purpose of the study which would have given them guidance when faced with uncertainty. Again it depended very much on the individual assessor on showing where and how marks had been allocated – those that took the trouble to show this clearly had few problems with their marking, but those that did not tended to seriously overmark. Centres that chose to embed the tasks in an overall unifying scenario did better.

Candidates were not helped where there was no ongoing marking and annotation of their work and where there had not been a mark break down for each section of the learning outcome.

The research areas of this unit (LO1.1, 3.1, 3.2, 3.5) were approached through a range of survey methods and activities with learners undertaking visits to a variety of habitats.

Evidence was presented mostly in the format of written responses to an assignment brief, but there were opportunities for learners to use a variety of ways including, hand scripted, word processed, sketches, diagrams, photographs, spreadsheets, field notes, GIS and oral/group/PowerPoint presentations. A range of different types of assessment evidence was encouraged and where annotation of evidence against specific learning outcomes was provided it was clear which facilitated moderation.

There was little evidence of internal moderation, and this was a particular problem this year – a number of centres had obviously formed a consortium and undertaken the same assignment brief. However there was a wide variety in the marking ranging from very sound to seriously out of tolerance. Simple internal standardisation and internal moderation would have saved a lot of unnecessary trouble as well as providing very good INSET for many assessors. A key issue is one of interpreting the wording of the marking criteria and the assignment briefs.

Areas that need attention:

- Some Learner Observation Records not included
- Some centres did not give page references indicating where evidence was credited for the learners
- Many centres gave no evidence of internal standardisation/moderation.

Comments by moderators suggest that there was a range in the quality of assessment.

At its best assessment was of a very good standard - full, conscientious and consistent interpretation of the criteria, marking was closely consistent with moderated scores with very little variation between marks awarded by different assessors. Comments and annotations on the scripts were supportive of the moderation process. The assessment and internal moderation clearly and fully indicated how and where LOs and MBs were achieved.

However although the quality of assessment was generally good, there are some issues.

A significant number of centres missed some or all of the key command words and consequently the work they submitted lacked the detail for full coverage of the topic - that said some of the LOs seem to be 'extensive' in their remit and very challenging for youngsters that will be working on diplomas. On too many occasions the work was graded on the higher MB when really it should not have been. MB3 marks in particular were given to work that lacked the detail necessary. Students work would have been improved by centres organising their work in a way that reflected the structure of the marking grid with more consideration to the 'key words' and

'command words' so that tasks had a clear 'stated' link to the mark structure, following the LOs in order - most students would have benefited from a more obvious connection.

It would have been helpful to see some mark annotations / comments on the scripts from all centres otherwise it is difficult to establish for which part of the work the marks had been awarded.

At the other end of the scale some of the best centres had been somewhat hard on their candidates, especially in awarding marks at MB1. Some of the weaker candidates were credited with 0 when their work actually deserved something.

There is a problem in the interpretation of 2 LOs that is not unique to this unit which I shall detail below.

MARKING GRID A

LO1

LO1.1 and LO1.2: These LOs relate to basic ecology and classification, and are easy to relate to other subjects such as Biology and Geography for internal standardisation purposes. The LOs are knowledge based, and LO1 is differentiated by the level of detail required, e.g. "in detail" and "thoroughly" for Mark Bands (MBs) 2 and 3 for LO 1.1. For LO 1.2, the differentiation is quantitative, with "some", "majority" and "most" being the command words as the MBs progress. If all organisms are included in the definition, it is unrealistic for level 2 learners to even achieve "some". Therefore concentrating on a few major taxa would be realistic (e.g. chordates, angiosperms), an approach most centres seem to have adopted effectively. It was felt that just diagrams of food chains, nutrient cycles and biomass pyramids was not sufficient as a "thorough description".

Positive points:

- fundamental principles of ecology, biodiversity and succession were covered well.
- good range of animals, plants and habitats covered
- quality of the classification being the main differentiator between candidates
- good examples of the topic, well illustrated
- plant and animal species generally well described.
- Use of the internet much improved – selective and attributed in many cases

Negative points:

- lacked the detail to access MB 2 and MB3; not completed with a reasonable level of detail; limited description of habitat dynamics, biodiversity and succession so it's hard to understand how many students were assessed as being in MB 3.
- 'biodiversity', the process of 'succession' and the 'dynamics' of the process, were credited without supporting evidence

- 'dynamics' was not explored well
- succession was weakly understood
- research not related to field work, treated as a paper exercise so although covered most points lacked depth and involvement by candidate

The briefs provided candidates with opportunities to score, and even though few candidates managed to achieve all 3 of dynamics, biodiversity and succession, all of them managed to score to a good level in at least one. It was pleasing to note that downloaded material was attributed, edited by the candidate and made relevant to the point he/she was trying to illustrate, develop or explain.

LO2

Positive points:

- good guidance
- higher scoring candidates met the criteria of the command word "evaluation" well
- good work on the effects of climate change.
- section LO 2.2. covered which in the past tended to be omitted altogether

Negative points:

- role of biotic and abiotic factors (LO.2.1) could be improved.
- this is a difficult LO to achieve because of the number of variables – topography, climate, weather
- "analyse" is a high order skill which less able candidates struggle with. Descriptions and/or definitions of influences is not an analysis of "how".
- grasp of the implications of climate change was not demonstrated clearly; evidence to meet this learning outcome was at a lower level than that suggested by the assessor, their responses lacked the detail required to access the MB 2 & 3.
- better use of their data in the process of analysis required, mostly very generalised comments / statements
- research not related to field work, treated as a paper exercise so although covered most points lacked depth and involvement by candidate

LO2.1: This LO requires learners to show understanding and undertake research, with differentiation being via the research undertaken. In practice, the level of understanding is likely to be a result of the research undertaken, so the standard of research can be inferred from the quality of the work produced.

This is a difficult LO to achieve and the candidates did well in keeping their work focused and relevant to the assignment brief.

This is one of two problem LOs (the other being 3.3) and as a result tended to be down marked at moderation. Both LOs concern ANALYSIS and INTERPRETATION – these are both high order skills and therefore difficult to achieve. Centres are improving their approach and less likely to confuse these with the PRESENTATION of data which is a lower order skill. It is useful to make the analogy of a doctor who collects data about a patient (e.g. a blood sample). The data is then ANALYSED (e.g. oxygen level, sugar level, red cells, white cells, etc.) – but the analysis is not simply a presentation of these constituents, it is the identification of trends (e.g. sugar level has gone up since last sample), patterns and links (e.g. oxygen levels and red cell count both gone down), key data (e.g. dangerous levels of white cells), and the unexpected or exceptional (e.g. the presence of a virus). The doctor then uses ALL the data together to give it MEANING i.e. INTERPRETATION (e.g. diagnosis, prognosis – patient has diabetes with complications, but should have a healthy life with diet and insulin). Analysis and interpretation must include WRITING from the candidate. These are very demanding criteria and the expectation would be that only very able candidates would achieve MB3.

LO 2.2: Learners are required to demonstrate understanding of potential changes to the environment caused by climate change, with differentiation via the detail of the evaluation. As the likely changes resulting from climate change are largely conjecture (e.g. as temperature rises, annual plant growth cycles shorten, but increases in carbon dioxide may compensate), any plausible response is acceptable. Examples could include sea level rise (via thermal expansion or ice sheets melting), or northern migration of species.

While some centres treat this LO as a standalone item there has been an improvement with many centres making it relevant to the assignment brief.

LO3

Positive points:

- plans were devised for LO 3.1, and were included within the unit portfolios. Although plans were covered to varying degrees learners produced good evidence for these assessment foci. Methods and tools used for conducting surveys were covered well
- some centres have done well to properly assess “interpretation”
- some centres have produced good responses from their candidates for a high level and demanding LO
- some centres have guided and provided opportunities for their candidates to meet the requirements of LO3.4 well. Those who have made use of this have scored well
- some excellent examples of planning, interpretation and communication of information to different audiences
- quality of plans produced sophisticated and well considered

Negative points:

- poorer quality plans produced just a ‘list’

- LO3.3 - even at the top end analysis tended to be just description (rather than actual discussion / linkage of the results).
- graphs tended to be quite simplistic, generally bar charts etc. Often graphs were not titled labelled and axes missing labels. These are simple things that could be done to improve quality
- LO and MB could have been more clearly identified and justified through annotation in the body of the work because it is a difficult criterion to both achieve and assess.
- the level of planning, interpretation of data and communication in relevant ways for different audiences was lower than that marked by the assessor, evidence used for these tasks lacked detail for the MB awarded

LO3.1: This is a straightforward LO, requiring learners to produce a plan for a habitat survey, with differentiation occurring via the detail presented. To aid internal standardisation, evidence for this LO can be cross referenced against other subjects requiring a habitat survey. However, as with all assessment foci from LO3, this survey must relate to decision making; if no reference is made to this, then all the marks from MB cannot be awarded.

This tended to be generously marked at MB 3, which requires a plan that details the technique, the methodology, time, place, sampling, reasoning, review, etc.

The brief and tasks were well thought out and executed, so even where a candidate did not specifically address this LO there was plenty in their work that could be credited. Centres might like to think about getting their candidates to add detail/specifics on equipment and techniques which would help improve scores.

LO 3.3: For this LO, learners are required to interpret the data they collected. Unlike LO3.1, this LO is differentiated by the quantity between MB1 and MB2, with "some" and "detailed" being the active verbs. MBs 2 and 3 are differentiated via "clear" for MB3, therefore there is a quality statement. Any appropriate interpretation of the data collected by the learners is acceptable.

However only some centres are grasping the inferences of this command word and the burden it places upon candidates by providing the necessary structure and guidance for their candidates to access the full range of marks. Interpretation of environmental data could be made more robust if the students compared their own data with some secondary data presented in a more personal, descriptive style with illustrations (fieldwork notebook). Students could look at the changes in a woodland when a tree is removed and light levels change. The changes that follow could be captured with some 'fixed point' photography on a regular basis to illustrate the processes at work.

LO 3.4: This LO awards marks for communication of conclusions (from the survey). For any given mark band, this communication must include two audiences. The differentiation arises from the evidence being "relevant" between MBs 1 and 2 (presumably irrelevant evidence is acceptable for MB

1). The appropriate active verb differentiating MB2 and MB3 is "clear". Therefore it is difficult to differentiate on purely qualitative or quantitative grounds. Centres need to ensure the learners clearly state the audience learners are addressing and that the two examples are sufficiently contrasting.

The learners need to communicate conclusions to different audiences (plural), however, often they only communicate with one audience, hence limiting their marks to MB1 only. If the learners are to be credited with marks above MB1, the learners need to specify the audiences, and what was presented to the audiences specified.

However one or two centres did successfully tackle this LO by attempting varied formats. Candidates were being encouraged to be adventurous and use their particular skills/aptitudes e.g. media studies students using journalism, arts students using commercial graphics.

For LO 3.4 Centres perhaps could think a little more creatively about the different audiences and make sure that candidates provide an appropriate format for communicating such information. For example to communicate to local people, a leaflet might be a good idea, a poster or a power point presentation, a briefing note, article to be included in the college newsletter, a section to add to the college website?

MARKING GRID B

Grid B contains two LOs. LO3.2 differentiates via group working, commitment and initiative, and LO 3.5 differentiates in terms of review and acting on the review. In both cases, the LOs are quantifying practical skills, and it is likely that cohorts will contain individuals where there is little correlation between the marks awarded for the A and B grids.

In most cases the learners' work included detailed, well written assessor's observations.

ES202 Working in Environmental and Land-Based Organisations

The unit is designed to allow learners to develop an understanding of the Environmental and Land-based sector, and to report their understanding.

LO1 To achieve LO 1.1, candidates are required to identify environmental, land-based and associated industries. Differentiation (“some”, Mark Band (MB) 1; “many”, MB 2; and “most”, MB 3) is via quantity, and in most instances, candidates have produced lists, with short explanations and diagrams that annotate cross references between different industries in the Environmental and Land-based sector. A common learner mistake was to confuse industries and job titles, for example Agriculture and Farmer. The title of the qualification, and the word “associated”, take learners well beyond LANTRA’s ‘footprint’ (17 sub sectors), and industries such as recycling, energy production and specialist journalism can be included. Also note that Edexcel classifies Blacksmithing and Metalworking as a Land-based industry, but LANTRA does not. For LO1.2/3, learners have to describe key job roles, qualifications and lifelong learning opportunities in the sector; again, the MBs tend to suggest that marks are awarded for quantitative differences, e.g. “some”, “many”, and “most” for MBs 1, 2 and 3 respectively. The latter is, in practice, the number of key roles, training opportunities, etc., which are potentially endless. Most learners usually cover key roles, basic training and entry qualifications, but few cite appropriate life-long learning opportunities, even though the sector has a number of examples, e.g. LANTRA short courses, and professional bodies’ CPD. One moderator reported that some learners had made reference to the use of Health and Safety training as an example of life-long learning for this LO, which provided an effective link to LO 3.2.

Another problem encountered is that learners download information from careers websites, but do not reference the sources. Features of learner work achieving the upper end of MB 3 would comprise a description of a number of key job roles and of qualifications and training that include appropriate associated life-long learning opportunities. Initial qualifications and training must be appropriate for the sectors cited. LO1.4, where a description of the changing nature of Environmental and Land-based products and/or services

in the last 10 years is required, is also useful for differentiating grades, as the mark bands suggest that qualitative differences are sought (the mark bands being "detail" and "comprehensively" for MB2 and 3 respectively). As it would be unreasonable to expect learners to cover the whole sector, a representative sector should be sufficient. Evidence must be derived from the last 10 years, and should contain references to specific legislation, events or market requirements from this timescale, therefore - to cite an Agriculture context - the major Foot and Mouth Disease outbreak of 2001 is not acceptable for the 2012 series, nor is the removal of hedges (Hedgerow Regulations 1997). MB 3 learners will be able to cite a particular event, describe the effect on the appropriate part of the sector, and accurately describe more general trends. Learners at the top of MB1 are likely to cite specific examples, but not describe the effects, or alternatively, be able to describe trends, but not the reasons behind the changes. The learners who produced the best evidence in the June series tended to be those who reported evidence relating to a specific site or business they had visited, and who were able to relate to at least two sectors, e.g. Agriculture and Countryside Management in the case of Natural England Stewardship schemes.

LO 2.1/2 This outcome requires learners to complete a job application. The evidence should include an assessment of the learner's skills, a CV, a covering letter and a job application form. The MBs attempt to differentiate via the detail of the CV. It is difficult for a 14-16 year old to provide much information in a CV ("detailed" and "thorough" for MBs 2 and 3 respectively), so the difference is likely to be achieved in terms of citing relevant interests, hobbies, etc., and in the "professional" nature of the learning response. As a rough guide, for internal standardisation purposes, MB3 learners are likely to have CVs that would impress a potential employer and result in an interview, whereas top of MB1 learners are likely to produce all the required evidence, but not necessarily in a form that would guarantee an interview. In exceptional cases, and where stated, if a learner provides a CV alone this may be acceptable without disadvantaging the learner; for example, replying to a job advert requesting that applicants

send a “CV and covering letter”, which is sometimes seen in the trade press.

LO3.LO3.1 This LO requires learners to discuss duties of care towards the environment, plants, animals and other people, with differentiation being achieved as a result of the quality of the discussion, so MB1 is “briefly”, MB2 is “in detail” and MB3 is “thoroughly”. This was not answered particularly well by the majority of the June series learners, with a bias towards lower marks. The better evidence was achieved where learners had cited evidence of a site or enterprise familiar to them, with MB3 learners interpreting the mark band in a known context. Borderline C learners were much more likely to give broad, sweeping, but plausible answers. Evidence considered necessary for the top of MB1 learners comprised the 5 needs for animal welfare, the only specific example cited in the contents.

LO3.2 requires learners to explain employer and employee Health and Safety responsibilities, with the MB descriptors being “some”, “many” and “most”. The starting point for this is the Health and Safety at Work Act (1974), and in many cases, learners have copied this, or more specifically, interpretations of the Act and specific requirements for a known workplace. The active verb for the LO is “explain”, so differentiation can be made regarding the explanation offered by the learners. Where downloads are used with little explanation, all the marks from MB 1 cannot be awarded. The requirement of LO 3.3 is for learners to discuss legal and ethical obligations, and the information in the unit summary guides assessors towards expecting “other legal and ethical” obligations, therefore evidence cited against LO 3.1 and 3.2 cannot be used for this LO as well. The contents include a list preceded by e.g., citing “pay”, “reduced packaging”, etc., suggesting that any plausible examples could be acceptable (for example, “pay the minimum wage”, as some learners cited). The active verbs in the mark bands are: MB 1, “discusses”, MB 2, “discusses in detail” and MB 3, “comprehensively discusses”; all mark bands require examples to be cited.

LO4 Most of this mark band is practical, and recorded on grid B. LO4.1 requires learners to assess risks during work, and to act on the outcomes, with "some", "most" and "many" as the MB verbs. A risk assessment is cited in the contents, so this risk assessment is acceptable evidence, supported by a job card, reflective account or some other learner appraisal. As the moderator is not in a position to know exactly what risks were encountered in a particular situation, the assessor's determination of the active verbs is required. As grid B is entirely practical, it can be expected that some learners will achieve high marks for LO4.2 and 4.3, but perform poorly with LOs from grid A.

ES203 Plant Nutrition, Growth and Breeding

This unit is an introduction to plant physiology related to practical husbandry requirements, and comprises four LOs. The assessment of the unit is likely to be based around the propagation of plants vegetatively and from seeds (2 species from each technique, as per page 186). Therefore, to successfully achieve the unit, it is essential that learners are guided to an appropriate range of plant species, and given a realistic scenario. Moderators report that, in the vast majority of cases, a number of different plants were used, and these appear to have been appropriate.

LO1.1 requires learners to evaluate natural and human factors that influence i. establishment, ii. growth, iii. distribution, and iv., give a basic explanation of photosynthesis. The mark band descriptors are “in detail” (MB 2) and “comprehensively” (MB 3). It must be noted that the specifications do not appear to prohibit the exclusive use of cultivated species, but this may hamper the evaluation of distribution, although all the “distribution” cited in the contents is listed after an e.g., so centres have some flexibility. Photosynthesis can be cited as the basic equation, either/or in words or as chemical symbols. For the 2012 summer series, moderators reported that many learners did not attempt evaluations, and therefore did not achieve many marks for this LO.

LO1.2 requires a straightforward explanation of the requirements for water, the major nutrients, and the occasional minor nutrient example. The level of explanation differentiates the mark bands, being “detailed” for MB 2 and “thorough” for MB 3. Centres need to be aware that the active verb from this LO is “explain”, therefore an explanation is required; it is not sufficient for learners simply to state that “a plant needs nitrogen”.

LO2.1 This LO caused the most problems for centres. There was widespread confusion between the techniques used in plant breeding and for propagation of plants, post selection, e.g. grafting and fruit trees. The mark bands state genetic manipulation and plant breeding, yet in reality this is one and the same, so can count as one requirement. The aim might

have been to encourage learners to have researched genetically modified organisms, but as this is not specifically mentioned they cannot be penalised for not mentioning this technique, at least until MB 3. It is pertinent to note that the MBs all contain the active verb “state”, and are differentiated via “detail” (MB 2) and “comprehensively” (MB 3). The learners who achieved best for this LO were those who went beyond genetic modification and explained a range of breeding techniques.

LO2.2 requires a description of legislation and codes of practice concerning plant movements and handling, e.g. biosecurity and phytosanitary requirements. However, the contents mention legislation that does not directly relate to the assessment foci, therefore a wide range of plant legislation could be considered. Moderators reported that learners benefited from centres providing some structure within the assignment to guide them with their answers.

LO3.1 This is a straightforward LO at first sight; however, it reads as if it should be in grid B, “controls common plant pests and diseases”. It was most effectively covered where learners were required to produce a plan for controlling plant pests, diseases and disorders, and monitored what happened against this document. Presenting evidence as a guidebook or log seemed an effective assessment method. The MBs are differentiated via “some” (MB1), “many” (MB2) and “most” (MB3). This is rather subjective, as some species are more vulnerable than others.

LO4.1 requires learners to plan the management of growing plants. There were a number of cases where ‘retrospective planning’ was obvious. This could only be credited if it related to the “practical ways forward” aspect of the MBs. “Detailed” (MB2) and “detailed and clear” (MB3) differentiates the MBs.

Learners are required to maintain plant production records for LO 4.3, and any suitable records should suffice. To an extent, the moderator will not know what was realistic for the circumstances encountered by the learners,

and therefore needs to be guided to the MBs by the assessor comments. The mark bands state “detailed” for MB2 and “thorough” for MB3.

Grid B contains one LO, LO 4.2. This requires a record of the assistance the learner received when growing specified plant species to meet given objectives.

ES204 Animal Nutrition, Growth and Breeding

This is a work-related subject, which aims to link theory and practice. The unit will always require learners to articulate how animals are used and/or cared for in a wide variety of environmental and land-based industries such as agriculture, food production, wildlife conservation, sport, leisure and recreation.

The applied purpose of this Unit is to enable learners to develop and implement animal care programmes to meet commercial and non-commercial objectives. The goal of this unit was to give learners the knowledge and understanding required to care for, feed and safely handle animals with due regard to current legislation. Learners were required to:

- Care for animals, plan care programmes that meet their needs, keep nutritional records and develop their skills in checking animal health and welfare.
- To develop their knowledge of the feeding behaviour and dietary requirements of a range of wild and domesticated animals and of how commercial animal feeds meet their nutritional needs.
- To find out about breeding programmes and the use of genetics in this process.

This meant that it was essential that centres stress to learners the need to adhere to the Learning Outcomes and Assessment Criteria in order to prepare the learners adequately to demonstrate their practical experiences. Failure to do this restricted the amount of credit that learners could score beyond Marking Band 1 (See Marking Grid A) for their responses.

Project reports should ensure that learners are aware of the requirements of assessment levels which are used at this level especially designing their own format for keeping nutritional records demonstrating appropriate functional skills. Credit was given for evidence showing signs of animal ill health which was demonstrated through good quality visual records where necessary. Strong learners' reports showed written records and other

evidence including diagrams, graphs or charts which were essential to show their ability to correctly care for animals.

Centres should ensure that all the activities included in the project are used as evidence to meet the Learning Objectives according to the Assessment Criteria before learners work is submitted for assessment.

Different types of assessment evidence were encouraged and some centres should be commended for annotation of the evidence against specific learning outcomes which was helpful in facilitating moderation. Nonetheless, few portfolios included any explanation or justification of grades awarded by centre assessors. Also in some portfolios it was difficult to assess individual contribution to group activities. This was mainly due to well organised field activities which were followed up with group participation resulting in almost identical projects. Whilst group work should be encouraged, there needs to be more of an individual approach in some instances.

Report on individual Learning Objectives

LO1

Learners described Animal Nutrition, Growth and Breeding showing some degree of competence. Appropriate expansions resulted in most learners achieving good marks for this LO. Centres should be commended for using specific examples as evidence of feeding behaviour and nutritional requirements which was very helpful. This LO was the outcome that was generously graded at the lower end of the mark scale but rather harshly at the higher end.

LO2

This was the LO that centres tended to mark harshly at the top end of the mark range. Learners were struggling to give accurate information about animal breeding especially the use of genetics and selection. Centres are

advised to follow the learning objectives closely and make sure all areas are covered before the learners hand in their projects.

LO3

This was generally accurately assessed, although in a number of cases, the assessors were rather harsh in assessing LO3.1. Although most learners were not able to produce plans and nutritional records for animal care programmes, their activities in caring for animals was sufficient evidence. Although this evidence would not score high in this instance some credit should be given and an explanation accompanied in the evidence section. LO3.6 was not very well covered as learners failed to give a review of animal care. They could have easily scored all the marks if they had gone back to their practical work and presented some recommendations. The centres are advised to prepare learners for this higher order skill of being able to review routine work and come up with recommendations.

General

1. Raw data was used effectively and presented learners with an opportunity for originality.
2. Learners' should be encouraged to use more of their own words in some sections rather than relying on published information from the internet, e.g. LO2.1.
3. There is however a need to improve on data presentation by including different types of graphs and pie charts.
4. Learners' work presentation can also be improved by making sure that the page numbers follow, especially when learners include appendices. Including a table of contents is very helpful.

ES206 The Importance of a Sustainable Environment to Society

This is a work-related subject aiming to link theory and practice. The applied purpose of this Unit is to enable learners to develop protection strategies to ensure sustainable land use. Learners were required to:

- Study what society can do to preserve the environment.
- Study the impact of human activities on a habitat, species or ecosystem and decide on the best way to protect it.

This meant that it was essential that centres stress to learners the need to adhere the Learning Outcomes and Assessment Criteria in order to prepare learners adequately to use their practical experiences. Failure to do this restricted the amount of credit that learners could score beyond Marking Band 1 (See Marking Grid A) for their responses.

Project reports should ensure that learners are aware of the requirements of assessment levels which are used at this level especially using appropriate techniques to measure environmental impacts caused by commercial or recreation land use, focused on a specific habitat, species or ecosystem. Credit was given for evidence using findings to develop and organise a protection strategy. Strong learners' reports showed written records and other evidence including diagrams, graphs or charts.

Centres should ensure that all the activities included in the project are used as evidence to meet the Learning Objectives according to the Assessment Criteria before learners work is submitted for assessment. Centres should also be commended for meeting all administrative requirements as identified during this moderation series:

- Once again, submission deadlines were generally met.
- Correct learner record sheets and authentication statements were included.
- Marks were correctly entered on paperwork and on the Edexcel Gateway.

Nevertheless, some centres still need to improve on meeting deadlines and the inclusion of accurate paperwork facilitated smooth moderation.

Report on individual Learning Objectives

LO1

Most learners were able to describe the meaning and value of sustainability drawing on local, national and international examples. Descriptions of the approach of key stakeholders to environmental sustainability were satisfactory. Aims and consequences of legislation that protects the environment were identified.

LO2

Most learners were able to explain some environmental, economic and social factors that affect the way in which communities and business use and manage their resources. Explanations of how sustainable management of resources can support economic stability and environmental sustainability were satisfactory but could be better. Centres need to develop this area further in order to prepare the learner adequately for this LO.

LO3

This learning objective, addressing environmental protection strategies proved more problematic. This acted as a discriminator with too many learners not reaching the mark band 1 descriptors. The material submitted for environmental protection strategy planning saw most learner performances tailing off with some producing no work. Planning management strategies is a key feature of the diploma and centres are advised to address this issue and the way in which learner marks for this LO tailed off this year in their preparations for 2013.

General

- The design of the assignment brief would have benefited from greater clarity in the form of more structure and guidance within each task. Level 2 learners would gain from this, especially when faced by the challenge of strategy planning. This latter learner outcome is where teacher attention in 2013 needs to be focussed, e.g. few made any real in-roads into the matter of concluding and reflecting on strategies for LO3.3.

ES207 Environmental Monitoring

A key issue in this Unit was one of interpreting the wording of the marking criteria and the assignment briefs. Although Centres approached the unit with a fairly similar assignment brief there continues to be a wide disparity in the weighting and attention each centre attached to different parts of the assignment and mark scheme. The most successful Centres treated the assignment brief as an integrated whole with the theory of LO1 feeding directly into the practical aspects of LO2. This tended to ensure that work was 'applied' and relevant. Where each LO was treated as a discrete entity it encouraged an overdependence on the internet for LO1). Please remember not to credit purely downloaded material. This is still being checked as part of the moderation.

LO3 is demanding and although centres had provided their learners with structured guidance only a few learners were able or inclined to tackle this area fully. It will be a challenge to Centres to find how they can maximise marks for their less academically-inclined learners in this LO. Although mark band 3 and top of mark band 2 might be precluded by the amount of support centres give their learners this might be better than getting 0 marks. For instance MOT testers use a format to enable very detailed analysis of a vehicle, but it is little more than a tick sheet, even down to the recommendations (though there is room for additional comment).

Learners are required to undertake a single assignment surveying an environment to determine the impact of Environmental and Land-based enterprises in order to support decision making. Centres had delivered and assessed this in an appropriate manner. It was pleasing the effort they had gone to access interesting and relevant environments for their learners. As a result learners achieved better in the practical, applied LOs than for some other units undertaken. Of particular value was that learners could achieve the highest marks succinctly while still maintaining clear discrimination between the other mark bands i.e. quality really was the key criterion.

The research area of this unit, LO2, was approached through a range of survey methods and activities with learners undertaking visits to a variety of environments. Although some learners had evidenced their research activities in an appropriate manner by including a research log and notes on what was discovered in their portfolios, many simply submitted a presentation of their results. Centres should also note that downloaded material from the internet should not be simply inserted in portfolios without personal customisation, annotating or editing. Although survey data was often appropriately presented, Centres are reminded that learners must be able to summarise and analyse this material for the purpose of making a recommendation to gain the highest marks.

The outcomes of research activities were presented in a number of ways. With the PowerPoint presentations / posters some Centres had allowed learners to work in pairs or small groups for this activity. Whilst this is not inappropriate centres must ensure that each learner's individual contribution to the outcome is clearly evidenced. Furthermore, if parts of this presentation are to be assessed by marking grid A, there must be clear evidence of the learner's contribution, of where and how the marks were awarded. This could be done through a detailed and structured observation schedule.

Particular attention needs to be taken to the following:

- Oral presentations/observed activities – if marks for these are to be awarded in marking grid A, concrete, explicit evidence related specifically to an individual learner needs to be provided.
- Maximise marks for less academically inclined learners by supporting practical work with as detailed evidence as possible, in particular for LO2.4 and providing structured templates for high order skills in LO3.1 and LO3.2
- The assessment criteria in marking grid A are levels marked and centres need to carefully apply the discriminating factor at each band to ensure that marks are not downgraded at moderation e.g. LO1.1, mark band 1

requires an 'explanation' therefore 'description' is insufficient, and for mark band 2 this needs to be 'in detail' therefore a general outline or generic explanation is also insufficient.

- A notable area of weakness for many learners was - environmental monitoring (LO1.2) and the roles of agencies (LO1.3) were not sufficiently detailed. This is something that should be more carefully supported for the summer 2013 series.

ES208 Sources and Uses of Energy

This unit consists of three LOs. The first requires learners to demonstrate knowledge of energy sources; the second, an understanding of energy efficiency; to achieve the third LO, learners are required to undertake an energy audit. One consortium assessed this unit effectively by placing the audit at the centre of the assessment, with evidence for the other LOs used either to introduce the topic, or produced as part of the recommendations for energy efficiency; this approach is in keeping with the ethos of the Specialist Diploma. Tutors can obtain guidance to ensure that the evidence is of Level 2 standard by benchmarking to other qualifications (LO 1, particularly, can be benchmarked against higher tier GCSE Geography). Tutors also need to be aware that, technologically, this is a rapidly developing subject area, so they must ensure that they remain technically updated, and mindful that evidence that is acceptable this year may soon become out of date. The subject area of this unit falls largely outside LANTRA's 'footprint', so Cogent is the Sector Skills Council most likely to provide technical updating guidance. Moderators reported that, where learners had provided good descriptions of energy supply, this tended to be reflected in achieving higher marks across LO1, and therefore could be a beneficial area for centres to emphasise during delivery.

LO1.1 To achieve this assessment focus, learners are required to describe renewable and non-renewable sources of energy. If the site chosen for the audit is connected to the national grid, the sources of electricity nationally can be cited to provide evidence. This approach will also allow learners to provide evidence for LO1.2 (methods of energy supply). However, it is unlikely that mark band 3 can be achieved by tracing the electricity supply to a site alone; learners require a greater breadth of knowledge for this mark band. However, learners who have included mains gas, the energy requirements of an internal combustion engine (diesel, LPG or petrol), etc., have more possibilities of achieving mark band 3.

LO1.3 To achieve this assessment focus, learners are required to outline the reasons for, and against, a new renewable energy source. In most cases,

learners acquitted themselves well when providing evidence for this assessment focus, by offering balanced arguments. Any appropriate examples are acceptable, but in most cases learners tended to use wind power as an example; this proved a good choice because there is a wealth of evidence for and against wind energy. Citing the effects upon the landscape and/or the unreliability of wind as the disadvantage(s) seemed a popular response. The mark bands are differentiated by “in detail” at MB2, and “thoroughly” at MB3. Therefore, to cite that an energy source is renewable and reduces CO₂ production may suffice at MB1, but more details of the advantages are required for higher mark bands (for example, how much CO₂ is saved?).

LO2.1 To achieve this assessment focus, learners are required to examine examples of energy use, both in the wider society and the environmental and land-based sector; to achieve all of mark band 1, learners need to provide evidence for both. The difference between mark bands is “in detail” for MB2, and “in depth” for MB3. Whilst this assessment focus can be used to develop further from LO1.1, it needs to be noted that the active verb for the LO is “understand” rather than “know”, therefore a reasonable level of examination is required within the learner work. This tended to be an LO that most learners did not achieve particularly high marks for, possibly due to the higher level skills required to achieve the assessment focus.

LO2.2 The active verb of this assessment focus is “explain”, so simple descriptions tend to result in marks within the lower part of mark band 1. To achieve the top of mark band 1 and above, clear explanations are required. It must also be noted that the LO has three distinct aspects, “environmental”, “economic” and “social”, therefore evidence from all three aspects will be required to achieve the top of mark band 1 or above. The mark band differentiators are “in detail” for MB2, and “in depth” for MB3. The assessment foci within LO2 tend to be where A and A* learners achieve MB3 marks, but C grade learners achieve lower marks than for other assessment foci.

LO3.1, 3.3 To achieve these LOs, learners need to conduct an energy audit of a known site, and these assessment foci require the learners to plan the audit and capture the results. To achieve all the marks for mark band 1, evidence of both planning and results is required. The difference between mark bands can be found in the detail of the planning: “in detail” for MB2, and “in depth” for MB3. Therefore, to achieve mark band 3, a comprehensive plan is required; a basic plan is worthy of MB1 only. Moderators reported that, where learners had developed an effective plan for the audit, they went on to achieve high marks across all the mark bands for the assessment foci of LO3.

LO3.5 To achieve 3.5, learners are required to make recommendations based on the results of their audit. Most learners made at least some appropriate recommendations, and related them to the audit. The mark band differentiations are based on the number of recommendations: “some” at MB1, and “many” at MB2, with “many appropriate” for MB3. As the number of recommendations varies with the site, the recommendations should be related to the equipment and/or processes identified within the audit. Learners achieve better marks if they can relate the evidence to a specified site, for example, an office or an animal house. For the June series, some learners focused on a defined area within the energy audit, which is acceptable provided that the area is sufficient to make a reasonable number of recommendations. Some learners described alternative energy sources as part of their recommendations, which also provided useful evidence for LO1.1.

Grid B

Learners are required to work safely with others in order to achieve these assessment foci, therefore the groups that learners work in should be identified.

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