A-LEVEL
GEOGRAPHY

7037/C Non-Examined Assessment
Report on the Examination

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Geography GCE 7037C

Lead Moderator's Report

2023

Introduction

This report includes a general commentary on the accuracy of internal assessment judgements made by centres. It identifies areas of good practice and also highlights areas where requirements have been misinterpreted, providing constructive advice to teachers on the criteria for accessing higher levels in the mark scheme.

AQA completes moderation of centre-assessed work in order to quality assure the internal assessment judgements made by teachers within a centre. Where AQA cannot confirm the centre's marks, these may be adjusted in order to align them to the national standard. Centres should refer to their individual centre feedback report provided when results are issued. In combination, the centre-specific document and this overall report should help to support centres' internal assessment and moderation practice for future series.

General Observations

This year again proved quite challenging for many centres, a legacy of the impact of the pandemic on fieldwork activity. However, it is reassuring to report that the moderation team felt that the general standard of work presented was comparable to previous years. If anything, there was a perception of a slightly better overall standard. Students generally produced work that was devised and completed in a local area, and were very much in the spirit and ethos of the Independent Investigation. As ever, the most successful studies were founded on questions justified on the basis of clear underlying geographical ideas, concepts or theories, but firmly based in the real world and conducted at a manageable scale. A good study is characterised by completing the circle of enquiry by providing answers to the original questions based upon the data collected. A wide variety of interesting and appropriate investigations were undertaken by students this year, derived from many different parts of the specification content.

Some of the points raised in previous reports and by the advisory team have been followed up by centres this year. There have been some improvements in the choice and wording of titles and the link to the specification, a more discerning and focused use of literary sources, a greater application of quantitative /statistical techniques of data analysis where appropriate, a more targeted approach to methodology, a clearer link to the broader theoretical perspectives, and a greater emphasis on evidence- based conclusions which link back to the original research question.

As in previous years, it was noted by moderators that many loosely structured investigations were considerably over length, sometimes exceeding 8000 words. Centres should remind students of the impacts of producing work that fails to meet the assessment criteria. The guidance of 3-4000 words was introduced to give students a clear indication of the length and nature of the report required for the NEA. The lengthiest reports are often packed with unnecessary description, usually in the literature review and critical analysis sections. A concisely written, well-directed and focussed investigation allows students to explain and evaluate succinctly. Securing manageable investigation titles at the right scale, obtained through detailed discussion at the outset could greatly assist this process.

Most centres were able to interpret and apply the marking criteria accurately and consistently. The full range of marks was awarded, with some students achieving the top mark of 60. A few centres found it difficult to tease out the finer points in the strands and levels, and in some instances the work was leniently marked, where the level descriptors were not applied accurately. Conversely, a minority were too harsh in their marking, which led to an increase in the overall marks awarded. Assessment should be based upon the 'best fit principle' to find the appropriate level to award student's work for each section of the marking criteria. Internal standardisation generally proved effective at removing inconsistencies and improving the accuracy and application of the assessment criteria. In order to provide sufficient and effective annotation please encourage students to paginate their reports, then refer to specific pages in the students' reports where evidence of achievement at certain levels can be seen. Alternatively use abbreviations as annotations in the work to show where credit is being given. The moderator expects to see comments that relate directly to specific qualitative phrases used in the marking criteria, and also make direct reference to places in the students' written report where evidence of work meeting the standard of the criteria can be found. All comments must be summative. Formative comments should not be made on a student's NEA.

A mix of different practices was demonstrated by centres this year as they facilitated the work of their students. Some of the strongest investigations came from students who had designed their own titles and enquiry pathway from scratch, often based in their local or home area. Equally, some residential fieldtrips/field centres offered excellent bases for students who produced strong investigations, with individual titles arrived at with care. Successful students on residential fieldtrips had a clear individual focus and identified both the nature of and value of group data. A wide range of approaches such as these is acceptable, and much depends on the practicalities within the school or college. As in previous years, the balance between primary and secondary data was not defined. However, an investigation based purely on secondary data is not considered appropriate, which includes any data collected by previous cohorts. There was little evidence of purely "desk based" studies this year, but unlike 2022, students were disadvantaged if they adopted this approach.

Centres applied the requirements for Non-Examined Assessment throughout the research and the write-up phase, and there were very few instances of misinterpretation of the regulatory guidelines. The main points to bear in mind are that teachers must not mark work provisionally or share any comments so that students can then improve their work. Once submitted, work cannot be returned. Furthermore, centres are not allowed to provide primary or secondary data not collected by the student either individually or as part of a group. All secondary sources should be researched and compiled individually, even if students have worked collaboratively in collecting primary data. Where students propose similar investigations or methodologies that include working collaboratively, the teacher must give general guidance on the importance of personalised methodologies and independent working when presenting and analysing data that has been collected as part of a group. Centres are reminded that if any form of malpractice is suspected, AQA will investigate. Where malpractice is found to have taken place a penalty is given dependent on the circumstances and severity of the malpractice.

Themes selected for investigation

The vast majority of submitted pieces of work were well designed and competently executed investigations. The continued success of the NEA depends very much on careful planning and preparation before students finalise titles and embark on data collection. This was not always

evident, with some centres allowing a narrow range of titles. This tends to limit student engagement with the topic and goes against the ethos of this task. A minority of students attempted tasks that were unmanageable and, at times, unachievable.

The changing places part of the course was again the most popular selected by students, sometimes linked with elements of contemporary urban environments. Students often compared media images to the lived experience, or focussed on insider/outsider experiences. Evaluative questions focusing on aspects of urban regeneration were common as were studies that examined environmental and socioeconomic inequalities in contrasting areas. Across the entry, virtually all potential themes contained within the specification pertaining to fieldwork were explored. Examples included a study of the risk of wildfires based on an example near London last year, and an investigation of the geography of diabetes looking at two contrasting areas of a city to explore the link between socio-economic circumstances and food outlets. The “physical geography” investigations were dominated by coastal systems and landscapes, although water and carbon cycles appeared quite frequently, with a small number of enquiries conducted in glacial environments. Coastal management was a recurring theme along with studies of beach morphology, and comparisons between high and low energy coastal environments. Ecological investigations focussing on plant succession and diversity, usually in a sand dune or salt marsh environment, were also popular. Investigations rooted in the water cycle were sometimes less successful, in that although the specification content offers many opportunities for fieldwork investigations based on basin hydrology, a concentration on fluvial processes or channel characteristics in a geomorphological context is not suitable. Centres that approved proposal forms that were simply tests of the Bradshaw model disadvantaged their own students in the awarding of marks particularly for Area 1 of the mark scheme. A few of these still persist.

Many of the studies that were less effective were undermined by the formulation of topics that were either inappropriate or unfeasible in part. The lack of feasibility was apparent in several different forms. Some studies undertaken were unfeasible in terms of scale. For example, studies of how sand dunes demonstrate evidence of psammosere succession, based on several short transects of 50 metres are unlikely to demonstrate any significant change: 500 metres or more would be much more realistic. Similarly, investigations of urban microclimate are unlikely to produce meaningful results in a small town of 3000 inhabitants. At the other end of the scale, comparative studies of broad regional patterns, such as quality of life comparisons between regions located widely apart, are at too large a scale. Some studies were inappropriate in concept. The examination of urban morphology in the context of a village with a population of 1,000 is a case in point. Similarly, attempting to assess the impact of a development that has not yet taken place is impractical. It is also difficult produce a successful study that attempts to assess the impact of an existing development, if prior baseline data is not available. Where ‘successful’ formed part of the title, few students rarely dissected what the word ‘successful’ might mean or how judgements might be arrived at.

Data collection

It is pleasing to report that Centres generally seem to be managing the sharing of fieldwork data more effectively, where students are working in small groups. However, there are still a minority of Centres that pursue the use of grouped data too far. Situations where a whole Centre of significant size collect and share data and fit their titles and hypotheses retrospectively to the data are not acceptable in an assessment component that requires an independent investigative approach. It is very difficult in these circumstances for moderators to discriminate between students. Where Centres

have tried to tackle this problem by ensuring students are looking at different questions or hypotheses, this can lead to some contrived questions or hypotheses. Students often also included irrelevant data collection and presentation in their studies, indicating that it may have been part of questions that other students are examining.

Many students produced high quality work, showing an individual element and a good understanding of the underlying geography applied to a particular place. They produced studies that investigated original topics that were impressively well-planned and researched. Self-reliance and initiative were evident in many studies and where students were allowed the opportunity to choose their location, focus and techniques, true independent decision-making was possible, which often led to inspired and ambitious work. It is a pleasure to read such examples of outstanding scholarship.

Candidate Record Forms (CRFs)

The most impressive student proposals were clearly articulated, with appropriate titles, hypotheses or research questions, locational focus, methodologies and sampling strategies. However, the CRFs showed some variation in the way they were completed by students and commented upon by teachers. A few centres failed to include all the student forms in their submission whilst others were completed in a way that suggested that they had been written retrospectively to match the outcome of the research. Some were simply ticked as being approved without any further comment by the teacher, even though some were clearly unsuitable in terms of scale or had practical limitations. Note that the approval stage is the main opportunity for teachers to provide feedback to students, ensuring that the investigation structure is realistic and feasible, the locations chosen are suitable, that the programme of data collection is appropriate to the investigation and will yield sufficient data commensurate with the requirements of a 3-4000 word study.

There is a frequently a close correlation between the detail and substance of the CRFs and the quality of the ensuing work. The proposal is a working document and a way of managing adaptation within the enquiry rather than an exact blueprint, and students may make minor changes to their plans as the enquiry progresses. In some cases, the number of methods, sampling strategies and even the number of hypotheses may alter as the student reflects on the task in hand. This is perfectly acceptable, and it is not necessary for a further CRF to be submitted.

Centres are reminded that AQA offers an advisory service for teachers to submit student proposals for further advice if they wish to do so. This offers teachers the chance to gain input from senior advisers on the suitability of proposals, as well as obtaining guidance on other aspects of the NEA.

Notes and guidance on completing the CRF are available on our website.

NB: If you are unsure who your NEA advisor is, contact the AQA geography team geography@aqa.org.uk

Administration

Most centres completed all aspects of administration efficiently and on time and with all of the essential paperwork completed correctly. Thanks is due to all teachers involved. Their hard work is much appreciated as correct administration makes the work of the moderator much more straightforward. However, there were many cases this year where the administrative requirements were not completed satisfactorily, leading to delays in moderation.

The Centre Declaration Sheet (CDS) should accompany the scripts submitted for moderation, signed by all teachers involved in the assessment of the work. The Candidate Record Forms must also be signed by both the student and the teacher to confirm the authenticity of the work, and the teacher must approve the initial student proposal, predating the collection of data. Many moderators reported instances of poor administration with missing CDS, missing signatures on CRFs, and missing or inaccurate student numbers. Several had different scores on the CRF and Moderator Mark Sheet which meant clarification with the centre was needed, taking a few days. A lot of centres seem to be scanning in the original work for, or after marking. Text was missing at margins, diagrams too small to be deciphered, coloured diagrams printed in black & white so keys become useless. Some centres used the "comment" function on the right hand side for marking reduced text size, again compromising review. Note that if the student has received any assistance beyond that given to the class as a whole and beyond that described in the specification, this additional support must be indicated and taken into account when marking the students work.

On an individual basis, students should be encouraged to number the pages of their studies and to give reference numbers to their presentation (eg Fig. 1, Map 3). This helps examiners to see more clearly how presentation and analysis relate to each other and, therefore, to give the student the appropriate mark. Presentation and analysis are combined in the mark scheme, so students should be encouraged to regard them as complementary. Analysis should be referring to the material presented to answer the questions/hypotheses posed. This is much more difficult if there is a massive presentation section, followed by a separate analytical section, several pages removed. This year, there seemed to be an increase in the practice of putting representational material in appendices or at the end of the study where it is likely to be ignored or overlooked and, therefore, not gain the credit it might be worth. A minority of students, and indeed some Centres, continue to include in the study, either in appendices or occasionally in the body of the study, the whole set of questionnaires or data recording sheets used. This is not necessary; one example would suffice.

When sending sample work to the moderator, it should be removed from binders/bulky folders. Please secure work using a treasury tag or by placing inside a manila folder. All scripts should be suitably labelled prior to dispatch. For a small number of centres there was an issue with bulky reports containing batches of questionnaires and other recording sheets. Some studies included overlong appendices, which added little or no value to the quality of the submitted work. In a very small number of cases, samples of work for moderation were presented loose-leaf and without any page numbers. This made the moderation process very difficult.

Quality of Teacher Assessment

Marking of student work generally showed consistency and accuracy. Most centres used the recommended internal standardisation process and supplied evidence. Many teachers provided meaningful and comprehensive annotation on the work itself as well as on the CRFs, with comments on the students' work reflecting where credit was being given. This is extremely helpful during the moderation process and enables moderators to make a more informed assessment. Conversely there were some examples of work where there was little evidence of either marking or annotation. It is a requirement that before the work is sent for moderation there should be a clear indication on the script where the marks have been allocated. Individual centre feedback reports made available on results day help to identify any areas where marking and / or internal moderation may need to be addressed in future years, whilst a number of advisory points are given under the four mark scheme headings. This year, moderators generally noted that the performance on Area 1 and Area 2 Methodology were the strongest sections. Data representation and critical analysis (Area 3) was

much more variable, with a surprisingly wide range of marks awarded, given the facilities available for computer-generated graphs and maps. The weakest section in general, was Area 4 Evaluation and Conclusions, with many students not affording it the weight it warrants in the assessment criteria. Where marking was severe, it sometimes occurred in the introduction, where students had often read widely and thoroughly about both the issue and the place context. It also occurred on occasions in the methodology section where students had provided a thorough well justified account of the methods adopted, including sampling strategies.

The Written Report

The advised structure to the written report is that it should be linked closely to the mark scheme. It is recommended that it follows a logical sequence, starting with the CRF, and covers the four areas of the mark scheme. Some students submitted work that only partially covered the four areas, or alternatively combined several of the strands under a single heading. In the best work seen the enquiry route was obvious from the outset, and the work maintained a rigour and clear sense of purpose with the issue under investigation being firmly rooted in geography.

It is incumbent on centres to be aware of the possibility of using AI to assist the writing of investigation reports, an issue that will become more significant in future. Any such use would constitute a form of malpractice.

For more support on this please refer to guidance published and upcoming by the Joint council for qualifications in 2023. JCQ guidance: AI use in assessment. Protecting the Integrity of Qualifications.

In addition to the key information identified above, the below content examines each area of the markscheme

Area 1 Introduction and Preliminary Research

a) Define the Research Questions

This is the crucial stage in developing a successful investigation. It is essential to have a clear locational context: the study is about somewhere specific. Titles/key questions/hypotheses from some students were based on truisms and were doing little more than "proving the known".

Almost all students linked their title to the specification content. At times, this was just on the CRF rather than being embedded in the report. Some had multiple links, as many as 7 or 8, and some were very broad, selecting large subsections of the content. The discriminator was often how precise the link was - the best tied it specifically and then explained how they derived their title. It is recommended that students are selective in identifying the most relevant parts, commenting on the rationale for the connection.

Good practice involves the identification of a clear and well-focused question or hypothesis for investigation. Unfortunately, a number of submissions in 2023 were based on broad and unmanageable titles, making the task of answering the question very challenging within the 4000 word guidance. Some titles seen were very brief but broad in nature, lacking a locational context, such as “An investigation of heat islands” or “How the perception of place varies”. The scale of study

was sometimes inappropriate, for example “comparing biodiversity between western and eastern coasts of Britain” or “contrasts in place identity between Manchester and Berlin”

The use of hypotheses can be a productive means of focussing a more general geographical question or idea and many good studies use hypotheses in a very effective way. Such studies phrase the hypotheses in a form that is actually testable, such as: “Deciduous woodland will have greater ground biodiversity than coniferous woodland.” Or “As distance from the city centre increases, the air temperature decreases.”

The use of hypotheses does, however, have to be treated with caution. In particular, students should be advised to avoid too many hypotheses: the identification of 5 or more hypotheses is too many and will inevitably lead to a lack of depth in the analytical and concluding sections. A maximum of three to four hypotheses (or questions) is recommended. Hypotheses that contain a “due to” or “effect of” clause are normally not testable, because it is difficult to establish a causal relationship.

Successful enquiries tended to be based on areas at an appropriate local scale. Small scale studies such as the comparison between two neighbourhoods or wards, or the investigation of two contrasting beaches, are likely to be more appropriate in scale.

b) Research relevant literature sources and understand and write up the theoretical or comparative context for a research question

Even with a feasible geographical question at a suitable scale, some students limited their attainment to Level 2 or 3 in area 1 because of the lack or limited nature of conceptual or theoretical support. A key element in the inclusion of such supporting material is that it should be clearly relevant to the questions/hypotheses being examined. The blanket inclusion of a theoretical section, whose relevance is not linked to the questions or hypotheses posed can gain only minimal credit. Justification of the study must be in conceptual/theoretical and locational terms, not in personal terms. Phrases like “I find this part of the specification interesting” are not valid forms of justification.

Students generally included a theoretical context, usually linked to a literature review and a locational background, sometimes with very relevant information on current plans or management in the study area. Some relied heavily on textbook(s). Caution should be exercised in the number of references included – going into double figures often gives too many sources and too many words. The student may use the review to explore parallel examples and places as a comparative context, or to obtain the most up-to-date thinking about a topic and research local opinions and to see how these fit in with national thinking on an issue.

The best studies focused on a limited number of sources and applied them to their study effectively, in both a theoretical and spatial context. They were pertinent to the study, considered different perspectives, were fully referenced and acknowledged, and were thoroughly embedded into the report. An effective literature review can be quite short – perhaps only 500 words. The most astute students also made a convincing link between their geographical theory and the hypotheses or research questions, often by providing a clear rationale for each one. Some students spent a lot of time and effort focussing on the literature review. In extreme cases the introductions were in excess of 2000 words and included references to numerous academic reports. This was sometimes to the detriment of other sections. A number of centres had almost identical sources used by all students.

In some of the weaker reports, the theory was a list of concepts with definitions and the study area background drifted into irrelevant historical development, often derived from Wikipedia. Some saw

the literature review as a separate component largely unrelated to the rest of the study rather than an integral part that should be referred to at key points during the investigation, especially in the interpretation of results and conclusion. The theory described in Area 1b should underpin the whole investigation and not be perceived to be a 'bolt-on' to the whole report.

Maps give a useful context in terms of location but there is no need to involve many different scales. Students should aim to be more discerning and select perhaps two or three that are most directly useful. Maps of the UK with a location pin-pointed at the field study site are not required, but large scale maps are highly effective. They should have an indication of scale, bearing and full title, and can be used as part of a discussion of place context. Sometimes the spatial context was unclear and specific locational details were not given.

Note that whilst a risk assessment is an essential part of the planning process it is not a requirement of the mark scheme unless perhaps it successfully links with aspects of the ethical dimension. Some students wasted a considerable number of words writing detailed risk assessment documents which were of no value in relation to the assessment criteria.

Area 2 Methods of Field Investigation

a) Observe and record the phenomena in the field and devise and justify practical approaches including sampling.

The majority of studies achieved an appropriate balance between primary and secondary data. The important word here is appropriate. For many studies, especially those involved with physical geography, primary data are more significant than secondary. Overall there was considerably more evidence of primary data collection than expected, given all the interruptions to learning over the past two years, and centres are to be commended for the way they adjusted, improvised and responded to all the various limitations. The stronger investigations demonstrated evidence of a well-designed planning phase, often including a piloting strategy, careful selection of a range of 3-6 appropriate methods, clear indication of the number of sites visited and surveys undertaken, explanation of the sampling techniques involved and justification of the methods being adopted in relation to the purpose of the enquiry. Where the study is split into sub-questions or sub-hypotheses it is good practice to link the method(s) to each in turn.

Note that in order to access Level 4, a range of methods is required, relevant to the research question. These should be fully justified, with specific times, dates and frequencies stated. Ideally group and/or individual contributions should be clearly identified. Some studies were awarded high marks for methodology, yet relied on a narrow range of simple techniques. Investigations which depend on 2 or 3 types of subjective or qualitative surveys and a few photographs are likely to produce very limited data and do little to answer the field research questions. Questionnaires were often very simplistic, requiring yes or no answers, which are not always helpful. Piloting these (and other methods) would enhance final performance. A few centres allowed students to use a range of common methods regardless of what the task was, which was not conducive to independence. A number of students relied on well-established surveys for EQS derived from websites and field study centres. However, there is often scope to individualise the data recording sheets, making them specific to the purpose of the enquiry. A few students simply cut-and-pasted sections of a fieldwork guide when outlining and justifying the sample and technique, a practice that not acceptable.

Almost all studies now mention sampling as an important component of the data collection procedure and the best explain the significance of the methods employed. Descriptions are usually clear but

the reasons for employing the particular method chosen are often weak or non-existent. Some students substitute generalised discussions of different sampling frameworks for reasoned arguments for their chosen method. A significant number of studies would be improved if they showed their sampling locations and transects on a map. Some students simply wrote down terms such as random, systematic or stratified without further explanation or actual understanding. Random sampling does not involve selecting a location or respondent without a strategy but requires a specific strategy to reduce bias. The best responses were able to explain and fully justify the sampling method(s), justifying them and also the data items collected and the methods they had chosen to adopt. At the opposite end of the spectrum, the reader was left wondering what to do and data collection was limited – asking 6 people questions or doing a single 100 metre transect is not going to give a reliable size. Many data samples were therefore too small to be either representative or provide useful and conclusive evidence. This may be because some centres/students had not set aside enough time to generate sufficient data. With most studies it is important to collect data at different times to investigate temporal change or from multiple locations to investigate spatial patterns. Collecting wind and wave measurements on a single occasion is clearly insufficient to draw conclusions about prevailing winds and longshore drift processes.

Weaker investigations named data collection methods but provided limited clarification of why the method was used or how it linked with the sub-questions or hypotheses. In the poorer quality scripts, methods were selected indiscriminately and inappropriately, with only limited reference to the title or question.

Almost all students collected some primary data, supporting it with a variable amount of secondary information. The description of secondary data remains relatively weak, referring to vague sources eg ‘the council’s website or ‘newspaper articles’. Some students fail to go into any detail about exactly where the secondary data were obtained. In relation to Census data, for example, the source will often be dismissed in a part sentence referring to the Library or the internet. The exact nature of the data obtained and its precise source need to be identified and referenced in the bibliography. The same is true for all other secondary sources, especially maps downloaded from the Internet, which are rarely referenced. Students would benefit from being given advice about how to reference using standard approaches such as the Harvard system (though not required, this structure could be useful). Some believed secondary data to be the same as a literature source, and for a few there was an over-reliance on secondary material and a tendency for the investigation to drift away from their own findings. This particularly applied to some human geography investigations based on urban inequalities where IMD and census information predominated, with the addition of an EQS or a few photographs as the only primary sources.

b) Demonstrate practical knowledge and understanding of field methodologies appropriate to the investigation of human and physical approaches.

Stronger investigations had a good range of varied methods that were clearly aimed at collecting data to allow them to answer their sub-questions or support their sub hypotheses. A step by step explanation of each technique was given, almost as a set of instructions. Successful studies described the detail of the methods employed concisely and without repetition. With less successful studies, explanation was lacking and it was sometimes unclear how the data collected related specifically to the aims of the study. For some students, the description of the data collection was very brief, making it difficult to understand what was actually done.

Some enquiries included a methodology table that attempted to cover all aspects of the mark scheme, using diagrams, maps and photos to illustrate specific detail. Some inserted examples of data recording sheets with explanations or annotations of the questions posed or data headings.

It was pleasing to see many instances where data collection methods such as questionnaires were piloted. These pilot surveys often gave clear insight into the feasibility and timings of the investigation, as well offering a practical opportunity to trial the technique. They were used this year to pre-test questionnaires, take photographs in case the weather is poor at a later date, complete a brief risk assessment and consider ethical issues or try to work out the best sites to collect data.

c) Implement chosen methodologies to collect data /information.

The requirement for this strand is to show that the methods of data collection have yielded information that is of good quality in supporting the aims of the investigation. Unfortunately, there were a significant minority of students who collect insufficient data. For example, a study examining the urban heat island effect that is based upon one day's readings at twenty sites along a transect, has very limited reliability. Successful studies replicate the data collection on different days and at different times. It is difficult to suggest a minimum amount of time that should be spent on the fieldwork element of the investigation, but to support teachers in directing students appropriately, some of the best investigations see students collecting data over at least two days. This comfortably fits in with the four day fieldwork requirement for A-Level Geography.

The amount of data is an issue as getting the right balance is difficult - some have too little and others have too much, making the subsequent stages of the write-up onerous. Where the sample size is small and unrepresentative, and often well below expectations, this should be recognised in the subsequent evaluation of methodology. Some students had limited numbers of questionnaires and visited few study sites yet seemed unaware of the implications of this in terms of reliability of results; a smaller number had far too much data which made the task more difficult due to duplication and length. Certainly, it is essential to collect appropriate, plentiful and meaningful data if all levels of the mark range are to be accessed. Where only minimal data was collected, with small and/or unrepresentative sample, all three methodology strands were likely to score low marks. This can have a knock-on effect in that data presentation and critical analysis, and even the conclusion tends to be weak as well. There may be practical reasons why time spent collecting primary data is constrained, but this element needs further attention in some centres, and is the main reason why some marks were adjusted.

However, most of students had a comprehensive and balanced data collection programme designed to elicit sufficient information and evidence to explore the themes and aims of the enquiry. The methods adopted were linked clearly to each sub question and there was little or no superfluous information. Centres are reminded that students can share data collected in groups if they are working together on similar themes, and that this is often an effective way of generating larger and more useful sample.

Area 3 Methods of Critical analysis

a) Knowledge and understanding of the techniques appropriate for analysing field data

This first strand of critical analysis refers to the suitability and quality of techniques used to present and analyse data. Appropriateness is the most significant element in this assessment area, and most studies do select the appropriate techniques but there is a considerable variability in the quality of representation. For instance, material that is meant to be comparative needs to be presented in such a way that comparison is easy: this necessitates the use of graphs of the same size, using the same vertical and horizontal scales and placing material side by side. There is an increase in the use of downloaded maps. These clearly have a place in helping to locate studies and are to be encouraged. However, a significant number of students include such material without apparently thinking about its value. Many such maps lacked scales and appropriate titles, or reference in the text.

Many of the less successful studies did not label graphs clearly and accurately. This applied to both hand-drawn and computer-generated material. Most studies have a clear spatial element, but many of these failed to include appropriate spatial representation. However, some students showed great flair and innovation in combining photos with maps or graphs with maps so that data could be geo-located, and an increasing number used GIS packages and visualisation techniques such as Google Maps, Google Earth, ArcGIS Online or Aegis, to create maps with overlays. Hand drawn methods for presenting data still have their place. These included some impressive field sketches and sophisticated maps where photos and graphs had been located on a printed base map.

Some students adopt an indiscriminate approach to representation, including graphs for everything, but then only referring to a small part of the presented material. Such unutilised presentation is effectively irrelevant to the study and cannot gain credit. Students should be encouraged to be selective about the material presented, especially from a questionnaire. Effective use of annotated photographs continues to be a positive feature and there was plentiful evidence of well-annotated photographic images, which advanced students' arguments.

A good selection of presentation methods assists meaningful analysis. Students are applying techniques of statistical analysis with greater competence than was evident in the first few years of assessment. However, centres and students need to be aware that analysis doesn't always need statistical testing. The first stage in analysis is the interpretation of the data presented in relation to the original aims/questions/hypotheses. Statistical testing may form part of the analysis, which should follow on from more simple description and explanation of the patterns, trends, differences identified. The overemphasis on statistical testing tends to lead to the neglect of simple descriptive analysis. The value of measures of central tendency (mean, median, mode) and dispersion (range, inter-quartile range and standard deviation) remains under-utilised by students when it might be more appropriate than tests such as Spearman Rank Correlation and Chi-square. Where statistical tests are used, the best studies explain why they were used, show evidence of the calculations made and use the results to inform the analysis. Occasionally, tests were used but no reference was made to them at all in the textual analysis: this makes it very difficult to give much credit, because no interpretation of the results is involved. Statistical tests are still often used in inappropriate circumstances. A significant number of students do not demonstrate an understanding of the limitations of the tests. In relation to Spearman's Rank, many students used the test when there are too many tied ranks – this makes the test invalid. Others applied the test when there were too few samples (eg using it with 3 or 4 pairs). Chi-square is another misused test. This test is inapplicable if too many expected values are 0 or less than 1.

Where there is good understanding, the use of significance is employed and the results interpreted with regard to the hypothesis. Quoting the final outcome is important, but students should indicate what it means in the broader geographical context of the investigation.

Qualitative techniques were used in certain investigations, particularly for changing place studies. More complex techniques of analysis such as well annotated photographs, mapping with superimposed symbols and annotations, or colour coding and graphical representation of interview transcripts were extensively used. Many students used techniques such as polarising, theming, categorising or making linkages when coding text as part of qualitative analysis. Word Clouds featured a lot and were often effective and well-discussed. As with methodology, the crucial aspect is the suitability of the techniques used as opposed to a rigid number of qualitative and quantitative skills. Similarly, complexity of technique is not the main criterion-it is more important to focus on the suitability of the presentation or analytical method adopted.

b.) Demonstrate the ability to interrogate and critically examine field data to comment on accuracy, extent to which it is representative and use the experience to extend geographical understanding.

Most students interrogated their data systematically and commented on each set of results obtained. Description of outcomes was convincing, and the majority backed up their findings with detailed evidence. Stronger studies are written in the hypothesis sequence, interrogating the presented data with reference to the hypotheses throughout – and integrating theory and the extent to which expectations are being realised – with reasons being developed that is specific to the study area. Generally speaking, the majority of students produced an analysis that was too long and too descriptive. This is certainly an area where students could dramatically cull the length of their report. The focus should be on punchy interpretation of selected data referenced back to theoretical understanding.

Some students lose sight of their original aims/hypotheses when interpreting the graphs/maps without always linking back to the initial purpose, but this is critical for the higher levels. So too is an awareness of whether the data was reliable – is the sample size big enough, or the cohort representative enough? Better responses at level 3 and 4 make links to their initial purpose and often cross reference data sets, being aware of the extent to which aims are met. The best scripts included logical and organised interpretations, with precise and plausible reasons for the results obtained, often making links between different data sets. Patterns and trends were identified, showing an understanding of the ‘bigger picture’, with data manipulation to the fore.

Students are reluctant sometimes to acknowledge that the lack of a relationship between data sets or a result that is the opposite of the one expected is no less valid than one that shows a strong link. Quite often the messy geography of the real world, based on primary fieldwork data, is disconcerting to students who are expecting their results to match the expected outcomes. Of course, so much depends on how comprehensive the data set is to begin with.

Inevitably outcomes for this strand varied a great deal, from students who simply described the data in a basic manner to those who critically examined and interrogated the information collected and provided thorough explanations which linked to a wider context. Some were hampered in their interpretations by the poor use of presentation and analytical techniques. Successful studies were characterised by analysis that clearly related back to the original aims and sub-questions/hypotheses, examined the data in detail and used statistical analysis in an appropriate

and considered fashion. These studies were characterised by the identification of anomalies to the expected pattern.

c) Apply existing knowledge, theory and concepts to order and understand field observations

Note that the AO targeted here is AO2 and so the student should be revealing insight into wider aspects of geography connected to the enquiry as they are interpreting the results. As mentioned earlier, the literature review should not be seen as a supplementary task. The most successful students made links to their theoretical understanding throughout the report and also referred to literature sources in their interpretation of results and elsewhere.

The links to theory and the literature review are challenging and a significant number of students lose sight of these, whilst others are adept at applying the theory and the content of sometimes pertinent reviews to their findings with a clear awareness of the links between the two, and use to make judgement. The most competent investigations produced a successful analytical discussion and cross-referenced geographical theory and individual research to a high standard, but also cross referenced between data sets, using statistical and other measures to develop their findings further.

This element of the mark scheme tends to be a real discriminator and was often over marked. In the weaker scripts, the underpinning theory was not integrated into the analysis, nor was it used to help explain the results. In this section it is strongly advised that the key ideas that form the basis of the literature review should play a crucial part in the explanations or interpretations of data. This leads to a more coherent written discourse where the wider geographical picture is at the forefront of the analysis. It is all the more crucial therefore to ensure that the literature review is focused and relevant to the study.

Area 4 Conclusions, Evaluation and presentation

a) To show ability to write up field results clearly and logically using a range of presentation methods

This part of the mark scheme requires the student to produce a structured and logically sequenced report, following the stages of geographical enquiry and to use a mix of presentation techniques that are embedded within the report. It focuses on the overall presentation of the report, its organisation, structure, sequence and clarity. Some teachers did not realise that the presentation in area 3 only includes methods directly linked to the displaying of data collected and awarded marks for location maps or those derived from the internet which are only creditable in area 4. The range of presentation methods caused some issues due to the repetitive use of a limited number of very basic techniques such as bar graphs, pie charts and tables.

Most students knew how to write up the work as an enquiry sequence and there were many studies that were well organised, with titles, contents, pagination, well written paragraphs, techniques integrated into the study, full enquiry sequence, bibliography and appendix. Some even included an abstract or executive summary. Generally, the work was well presented, and centres are clearly giving good advice on the appropriate structure of the report. In most cases the outline followed the exact features of the mark scheme. A small number of centres did not seem to have made their students fully aware of the mark scheme and consequently the write ups were challenging to mark/moderate as they were written in essay form.

The structure of weaker investigations failed to show a logical sequence. Sometimes the presentation techniques and even the methodology tables were part of an appendix with little or no link to the main text. Some left out or curtailed important parts of the investigation such as the conclusion or evaluation, perhaps because they ran out of time. Quite a few included impressive presentation techniques of all types but showed limited ability to write up the results clearly or coherently. Where the range of presentation techniques was limited the marks for this strand were similarly reduced.

Some work displayed serious SPaG errors that could easily have been sorted by the use of spell checking. Moderators also reported a lack of contents and page numbers in some submissions, and some errors in formatting - it is disappointing to see text obscured by images, or the inclusion of tiny images that were difficult to discern at this level. It would also help if certain images such as maps and graphs were in colour, as it wasn't always easy to interpret keys if they were in grey scale. As already mentioned, some guidance on how to present a bibliography following a recognisable format would be useful in some cases eg Harvard Referencing.

As reported in previous series, many students made too much use of an appendix, perhaps because they saw this as a way of increasing the word count without exceeding the 3-4000 word guidance available for the main text. The report must function independently of its appendix and this is the work that is assessed. Supporting arguments must not depend on material located in the appendix. For example, data should be presented, analysed, summarised and discussed in the main body, but some raw data or sample recording sheets or tables of data could be placed in the appendix. There is little to no value in placing lengthy planning documents or other secondary information in the appendix.

b) Evaluate and reflect on fieldwork investigations, explain how he results relate to the wide context and show an understanding of the ethical dimensions of fieldwork research.

Most students referred to ethical considerations and attempted to evaluate the investigation, although it was often linked to practical points such as having a larger sample or collecting data at different times of day or year. This was often done in a basic way and had the potential to drift into a wish list for what could have been thought through more carefully. For example, practical or logistical issues. Suggestions for improvement tended to be limited, such as do more or collect additional data. Most students referred to their methods and results, and omitted elements such as planning, literature, choice of study location and conclusions, which are all important to evaluate.

Better studies were able to consider the issues with specific parts of the methodology, such as why the sample might be skewed to a particular group, how using random numbers led to clustering of sites and the exclusion of others for example and could perceive the impact on their findings and conclusions. Being aware as to how the study may be developed or linking to different areas shows an understanding of the wider context rather than seeing the study in isolation.

An effective evaluation should be multi-faceted, examining critically several of the strands of enquiry. To achieve Level 4 students must show a highly effective evaluation of the knowledge and understanding gained from their field investigation. on another occasion and at another site. Some showed greater perception of the wider picture, considering the limitations of sample size and its unrepresentative nature. They went on to consider the results and how some data contradicts other findings. They looked at whether results would be different if collected in a different place/time and if there was a link between inaccuracy and problems with methodology. The more astute students were able to reflect on their findings in relation to the original task set and realised the tenuous nature

of their conclusions in relation to the broader geographical context. Some suggested realistic ways to extend and improve their studies and identified avenues for further research. Note that evaluation of the presentation techniques used is not creditworthy.

The majority of students gave some attention to the ethical dimension of fieldwork, although some gave it only cursory attention. It should be noted that to access Level 4 some reference should be made to this aspect. The ethical dimension deals with issues in collecting the data which may impact on people and/or environment. It should be specific to the investigation methods rather than a generic list of points. The length and balance of this section which may appear in methodology or evaluation may depend on the nature of the enquiry. It may involve being aware of cultural differences and of the possibilities of causing offence, building 'consent' and 'confidentiality' into questionnaires and interviews and generally avoiding causing problems for the public, such as blocking pavements or interrupting trade. In physical geography, main ethical considerations relate to consent and access to study sites and potential damage; it could include concerns over trampling, damage to plants and animals or possible pollution, including litter or contamination of study sites. Some students covered the ethical issues very well, linking their comments to individual methods.

c) Demonstrate the ability to write a coherent analysis of fieldwork findings to answer a specific geographical question.

In this strand the student should look again the initial aims, commenting on the extent to which hypotheses or questions were supported by evidence, and present their findings the form of a concise synthesis. Most students did try to draw a conclusion – some returning to the title/sub questions after having been driven by data items in the write-up of the main study. The conclusions are not always evidence based but just assumptions. Stronger investigations include a summary of findings, rather than a repetition of analysis. The best investigations gave a clear overview of the findings, returning to underpinning theory and literature review before discussing and evaluate the extent to which hypotheses have been realised. The most successful conclusions were kept quite concise – they did not repeat the analysis but drew evidence together, with references to their reading, allowing them to progress into a natural conclusion in relation to their overall question or title. Better reports recognised the tenuous nature of the conclusions and avoided a dogmatic approach, especially where the evidence was partial or limited.

Some of the weaker work consisted of an extension or repetition of the interpretation of results or was simply a brief summation stating whether the hypothesis was supported or refuted by the evidence. On occasions this strand was overmarked- a minimalist approach consisting of a short paragraph stating that all hypotheses were proven is unlikely to access higher level marks.

Many students wrote the conclusion on a hypothesis by hypothesis basis which ensured that these mini conclusions related back to the original aims and hypothesis. A significant proportion however failed to provide an overall summative conclusion, so didn’t manage to draw the various strands of enquiry together at the end. A few incorrectly introduced new material into this section, whereas it should be a natural summary of the results already analysed and interpreted.

Areas for Improvement for centres

- Base the investigation on a clearly focussed question, supported by a limited number of subsidiary questions or hypotheses that are closely related.
- Ensure that the literature review is linked clearly to the aims and hypotheses/research questions.
- Research a range of relevant geographical sources that are referenced throughout the report.
- Greater consideration to be given to ensuring a secure and appropriate locational context.
- Sample size should be large enough to enable thorough and meaningful analysis.
- Show understanding of sampling strategies and why they were used.
- Provide clear justifications of methods adopted in relation to the purposes of the enquiry.
- Use a range of appropriate presentation and analysis techniques when processing the data.
- Ensure that there is an ethical and wider context element.
- Ensure that evaluation of the investigation is wide ranging and is not confined to methodology.
- Often there is a detailed risk assessment which although to be commended in terms of health and safety considerations does not attract marks for the written report.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the Results Statistics page of the AQA Website.