A-LEVEL
GEOGRAPHY

7037/C Non-exam assessment
Report on the Examination

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Introduction

This report includes a general commentary of accuracy of internal assessment judgements made by centres. It identifies areas of good practice and also highlights areas where requirements have been misinterpreted, providing guidance 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

Overall this year proved somewhat more challenging for many centres, largely due to the impact of the pandemic on fieldwork activity. However, it is reassuring to report that the moderation team encountered few issues during this summer's moderation process, despite the inevitable interruption to programmes of fieldwork in schools over the past two years. Most centres are meeting the requirements of the specification and are approaching this component with utmost professionalism. 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. There can be no doubt that the vast majority of students were fully engaged by, and committed to, their investigations. It was pleasing to see a wide variety of interesting and appropriate investigations being undertaken by students, the majority of which were a clearly linked to the specification.

Some of the points raised in previous reports and by the advisory team have been picked up by centres this year. There have been some improvements in the level of clarity and detail provided by students on CRFs, more appropriate choice of titles, a more discriminating use of literary sources, a greater emphasis on appropriate and more sophisticated methods of data representation and analysis, and a clearer understanding shown of the evaluative elements of the investigation.

Although there has been some improvement, it is still the case that many investigations are significantly longer than the recommended word guidance. Centres are reminded that the recommended word count of 3500-4000 words is sufficient for study at A level. Word counts significantly in excess of this become self-penalising, as the study can lack focus and coherence. The lengthiest reports are often packed with unnecessary description, usually in the literature review and critical analysis sections. Sometimes the work was decorated with too many accessories (maps, leaflets, posters, overly long appendices etc) that added to the bulk of the report or the study lost focus as it failed to reconnect to the original aims and theory. A tightly structured report, clearly focused on the investigation, allows students to explain and evaluate succinctly.

The majority of centres demonstrated a secure grasp of the mark scheme and were able to apply it appropriately to their students' work, although many centres found it difficult to tease out the finer points in the strands and levels. In some instances, the work was leniently marked and level descriptors were not applied accurately to the scripts being marked. In a few cases, centres were unable to accurately judge the quality of work, perhaps relating to the lack of moderation required over the last 2 years.

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. Centres differentiated well between students and where appropriate, used the full spectrum of the mark range. This reflected well upon the high quality of teaching and hard work of the students. There were many outstanding investigations, deserving of full marks. Centres should use the full range of marks where appropriate. Full marks do not require perfection.

Where marking was generous, it tended to be in respect of data presentation, analysis and interrogation (Area 3 of the mark scheme) or in the evaluation and conclusion (Area 4 of the mark scheme). 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.

There is further guidance on marking and annotating work in the guide on our website.

A greater mix of different practices was demonstrated by centres this year as they facilitated the work of their students. Some allowed freedom to select titles and environments, which enabled students to collect information in their own time, whilst ensuring that the work was carried out safely. Others arranged for students to work in small groups on similar themes, once they had submitted their proposals for independent work. A wide range of approaches such as these is acceptable, and much depends on the practicalities within the school or college. Far fewer centres were able to make use of residential centres this year, so the vast majority of investigations were carried out in the immediate locality.

For the 2022 cohort it was agreed that students could make use of technology to collect primary data by virtual means rather than going into the field (eg online surveys, interviews, use of Google street view and webcams to record land-use). As in previous years the balance between primary and secondary data was not defined. However, an investigation based purely on secondary data was not considered appropriate in 2022, and a penalty was applied to Area 2 (methodology) where this occurred. Any data collected by previous cohorts was confirmed as secondary data. In practice there was little evidence of purely "desk based" studies this year, but students were not 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

A wide range of impressive work covering different areas of the specification was submitted this year. The titles developed by students were firmly rooted in the specification and generally fit for purpose. 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 only allowing a narrow range of titles, although the special circumstances this year were taken into account. Narrowing the theme possibilities 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 yielded some excellent investigative studies, the most popular selected by students, often linked with elements of contemporary urban environments. Rather less frequently, students chose to develop titles based on local aspects of globalisation, population, migration and resource security. Across the entry, virtually all potential themes contained within the specification pertaining to fieldwork were explored, even hot desert environments and hazards. There were some inventive studies, which honed in on the impact of the pandemic, and these were successful at the local scale. A small number of students misunderstood the requirements for 2022 and thought that titles could be much broader, relying on secondary data alone.

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. Ecological investigations focusing 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. There were a number of "hybrids" with students looking for example at the effectiveness of coastal defences (mainly groynes) and public attitudes.

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. Similarly, it is not possible to justify most meteorological investigations, unless linked to urban microclimate, as these are not based on the A Level specification content.

The strongest work was often produced by students who developed an evaluative question as a title, usually based on their own locality, with no more than 3 sub questions or hypotheses that were closely related to each other. Indeed, there were many successful enquiries that were based on a single hypothesis or research question. Equally, some residential fieldtrips/field centres offered excellent bases for students to produce strong investigations, with individual titles arrived at with care, although these occurred less frequently this year. Successful students on residential fieldtrips had a clear individual focus and identified both the nature of and value of group data. The most ingenious and often high scoring scripts tended to emanate from students who pursued an independently sourced theme that had inspired them during their A Level Geography course, and which enabled them to demonstrate a real enthusiasm for and insightful understanding of the subject.

Candidate Record Forms

It is encouraging to report that meaningful and detailed annotation of Candidate Record Forms is taking place in most centres and the majority were completed thoroughly. 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 candidate 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.

There is further guidance on the CRF in the guide on our website.

Fieldwork investigation is often a process that changes over time and so it should not be seen as an issue that investigations change from the initial proposal. Instead this should be recorded as part of the process of completing the investigation. 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.

The link to the specification should include evidence that the central theme has a solid and real connection to some content within the specification, ideally using page/specification references to show the linkage. Questions or hypotheses should be manageable and achievable. The focus section gives the opportunity to provide brief details about the theoretical background and a justification for the location / spatial area in which the investigation will take place. In the methodology part of the form students should outline both design and data collection techniques, ideally linked to the sub-questions or hypotheses. Proposed sampling sizes and strategies should also be indicated.

Many centres provided effective and realistic general guidance so that students could develop their investigations individually. 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 4000-word study. Under the regulations for the NEA, centres are challenged to find the right balance between supporting the students, whilst also enabling them to take control and demonstrate independence. In a few instances, teacher guidance on the CRF was too specific, and conversely there were many cases this year where the title was simply approved without any written general advice or direction; hence opportunities for reducing breadth and subsequent very long studies were missed. It is vitally important to give students clear advice about suitability of the enquiry in the initial planning phase.

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. If you need to find out who your NEA advisor is, send an email requesting this information to geography@aqa.org.uk

Note that it is not necessary to include all versions of the CRF if more than one has been submitted by the student. Only the final approved version is attached to the work. Similarly, where internal

standardisation has produced more than one mark, only the definitive agreed result should be inserted.

A very small minority of centres took insufficient care to ensure that students' work was truly independent. This was most evident when titles and hypotheses varied by just a few words across the cohort. Very similar or identical titles may result from discussion or collusion between students. Those with similar aims can collaborate on sampling and data collection and share data, but the work cannot be teacher directed. Students should also avoid producing formulaic work with similar presentation and analytical techniques, outcomes and evaluations. In a few instances, students appeared to end up with a mass of data collected in one large group and were unsure of what to do with it. Its possible students were considering all the possible techniques/data they could use for a theme, then creating some suitable hypotheses. In these circumstances, some investigations began to look worryingly similar, and such a narrow focus did not allow students to play to their strengths or indeed their interests.

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.

Moderators check the following paperwork - the Centre Declaration Sheet (CDS) and the Candidate Record Form (CRF). If any items are missing or incorrectly completed, as was the case for some centres, moderators are obliged to contact the centre which results in unnecessary delays to the process of moderation. 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. There were some reports this year of centres submitting marks and dispatching work to moderators well beyond the deadline of 15th May, which caused delay.

In general, work was very well presented for the moderation process with the relevant administrative forms enclosed. Clerical errors were rare, but centres are urged to ensure that an independent check of submitted marks is made before final dispatch. This avoids a delay in the process. The Centre Declaration Sheet 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. A few moderators reported instances of poor administration with missing CDSs, missing signatures, and missing or inaccurate student numbers. Several had different scores on the CRF and MMS which meant clarification with the centre was needed, taking a few days.

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. It is often useful to signpost the areas and strands of the mark scheme using abbreviations and brief comment based on the assessment criteria (eg 1a L4). 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. For a minority of centres, merely placing several ticks on a page or writing excellent work did not help the moderation of a student's work. The wording should reflect the mark scheme criteria. Most centres completed the CRF documentation with great care and real detail, although some were content to ‘lift’ from the mark scheme without personalising comments. 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.

There is further guidance on marking and annotating work in the guide on our website.

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.

Area 1: Introduction and Preliminary Research

a) Define the research questions

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. In some cases, students failed to recognise that certain topics link to several aspects of the specification, and just focused on one section only. For instance, a study of the impacts of migration on the character of a place might encompass aspects of changing place, population and the environment and global systems. The discriminator was 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. At the upper end, there were focused elements which were precisely linked to the aims/hypotheses and clear comment linking the content to the study and the literature review. At times, this section was over-marked by teachers who did not perceive the need to make an explicit justification for Level 4 marks, which is indicative of understanding. Some students had more than 3 subsections which led to the reports becoming over-length.

Good practice involves the identification of a clear and well-focused question or hypothesis for investigation. Unfortunately, a number of submissions in 2022 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 biodiversity” or “How management affects the coastline”. Less successful investigations often had flaws which could be identified in the title – for example, where students tried to assess effects or impacts. It is often difficult to assess impacts, when few students can effectively obtain baseline data prior to new developments or redeveloped sites. Where ‘successful’ formed part of the title, few students dissected what the word ‘successful’ might mean or how judgements might be arrived at. Clear indicators to measure success, sustainability or impacts should be identified at the outset

Some attempted to address a number of discrete questions or hypotheses which were not directly related. This led to a fragmented approach and the development of several mini studies, from which it was difficult to draw a unified conclusion. Each sub-question/hypothesis needs to assist the aim of the investigation, not distract from it. It is recommended that titles have a locational and theoretical context. Successful enquiries tended to be based on areas at an appropriate local scale, for example cities the size of Plymouth or Leicester are too large. Where scale was too large, comparisons with another place exacerbated the problem and made investigations even less likely to produce successful outcomes. 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

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 the approved 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 went on to evaluate the research based on age, author, source etc, as well as checking whether the outcome is agreed by other authors. They also made a convincing link between their geographical theory and the hypotheses or research questions, often by providing a detailed rationale for each one.

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. 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. Others provided a lengthy list of sources in a bibliography, but there was little or no evidence of these being used in the written report. In a very small number of centres where students had carried out similar investigations, it appeared that they may have been directed to

certain literature as they all used the same sources for their research, which compromised the independence of the study.

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 including 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.

Overall there was considerably more evidence of primary data collection than expected, given Covid constraints, and centres are to be commended for the way they adjusted, improvised and responded to all the various limitations. Data collection was discussed and implemented with varying degrees of success. It was encouraging to see a diverse mix of methodologies being employed, often showing originality and initiative, and students were generally conversant with the suitability of both qualitative and quantitative methods. 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.

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. Some of the poorer investigations had a limited range, often only one or two simplistic techniques such as qualitative surveys or photographs, and did little to answer their field research questions.

Some students had a clear appreciation of different sampling methods and understood why they were used. Others simply wrote down terms such as random, systematic or stratified without further explanation to show their understanding. A reminder that random sampling does not involve selecting a location or respondent without a strategy, but requires a specific strategy to reduce bias. Students should develop a greater awareness of this aspect and be prepared to justify why they selected a particular method. The best responses were able to explain fully the sampling method(s), justifying them and also the data items collected and the methods they had chosen to adopt. In some cases, data collection was limited – asking 6 people questions is not going to give a reliable sample size – and offering questions that had a yes or no response was

limiting later on. Many data samples were small – too small to be either representative or provide useful and conclusive evidence. It's important to ensure students have enough time set 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.

Almost all students collected some primary data, supporting it with a variable amount of secondary information. The proportion of secondary data was inevitably much greater this year, but very rarely did it become more dominant than primary data collection. Some did not fully appreciate the role of secondary data, which is information derived from published documentary sources and has been processed, such as census data, research papers, text books, and information from websites. Some believed it 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.

This year more, than in previous series, secondary data was of great value where used to support the primary data collected. This applied particularly to investigations where change over time was involved, such as urban regeneration enquiries, studies of demographic change, studies of rates of coastal erosion, changes on a high street or change to a place over time. Some students made use of meteorological or river discharge data, or wave height data, which enabled them to make comparisons with their own (unrepresentative samples) and add greater conviction to the reliability of results. There was no evidence that students were relying on virtual fieldwork scenarios, but in a few cases laboratory experiments on infiltration were still being presented wrongly as evidence of primary data collection. Some found that there were practical problems when trying to rely on online sources, particularly where responses to questionnaires were very limited.

To achieve Level 4, students must show strong evidence of a range of data collection methods, both quantitative and/or qualitative that are 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. Often, where group work had been undertaken, this was not the case. In some instances, the range of approaches was limited, and in others the number of techniques was wide-ranging, but these only had limited connection to the enquiry purpose. Students should be encouraged to edit questionnaires carefully, asking only questions that are relevant to their aims. 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, field study centres or even past exam papers. 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.

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. These methods were well described, replicable and clearly justified. Advice given to students should recommend step by step explanation of each technique, almost as a set of instructions. In some instances, data collection techniques followed a centre recipe approach, and in a few schools/colleges it seemed that students had fitted their titles to the data collected on a field trip, rather than selecting

out the title, then deciding on the appropriate data needed. Given the word guidance and the need for a focused approach to enquiry it is essential of course to incorporate only those techniques that address the questions or aims of the investigation.

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. For more able students, methodology tables might be better used as a drafting device – allowing the student to extract the most important details for a discussion, in extended prose, in the report itself. If students wish to use a tabular format to explain methodology, they should devise their own tables with suitable sub-headings, appropriate to their study.

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. 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. The volume and quality of data becomes evident in tables of data, and other presentation techniques. Needless to say, there is no credit for methods of data collection that are described and explained but are not then executed in the field, no matter in how much detail they have been outlined. Some students mentioned methods which they were hoping to implement, but were unable to complete these because of Covid. Similarly, where the sample size is small and representative, 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.

It is essential to collect appropriate, plentiful and meaningful data if all levels of the mark range are to be accessed. There were some cases where the time spent in the field was restricted to just an hour or two. The student only had time to complete a few surveys or a single set of observations yet felt justified in making confident conclusions based on very limited evidence. In the most extreme cases students completed just 10 questionnaires or a single transect and little else, yet managed to write a 4000-word report. Basing judgements upon this tiny sample is hardly convincing in terms of testing any question or hypothesis. 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. 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 lower.

However, the majority 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. Note that the number of methods for data capture is far less important than the compilation of a body of useful and relevant information targeted at the enquiry. Some methods are quick to complete and produce relatively little data, whereas others may take all day and yield a significant amount of useful 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.

Students do not need to include all of their raw data collection booklets and recording sheets with their investigation. There were several instances where the student felt compelled to include every questionnaire, adding considerably to the bulk of the script. It is sufficient to include a small sample of the raw data collection tables as evidence of primary data collection conducted.

Area 3 Methods of Critical analysis

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

The mark scheme indicates that presentation, analysis and interpretation should be integrated and not considered separately from each other, so ideally the presentation of data should be found alongside the commentary and explanation of results and certainly not added as a supplement at the end of the report. To access Level 4 students must use a range of methods of data presentation and analysis, which are accurate, appropriate and well applied. This first strand of critical analysis refers to the suitability and quality of techniques used to present and analyse data. Data presentation remains a strength for many students. An increasing number of students presented data spatially, including isoline and choropleth maps and maps with superimposed proportional symbols. Some students showed 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. However, many students fail to give these symbols a legend or a scale – so it is impossible to read the data that is being presented on the map. 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.

Interestingly, photographs still tended to be underused or poorly annotated and maps often left incomplete without the normal conventions. Inevitably perhaps, because the methods are chosen independently, some students continue to opt for well-rehearsed means of presenting data, so there were numerous basic graphical techniques, often repeated multiple times. These often lacked the spatial element that would have been afforded by mapping the data as located symbols or graphs. The indiscriminate over-use of computer-generated graphs using Excel “chart wizard” should be discouraged – the most suitable method for data presentation must be selected.

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 two years of assessment. Statistical analysis can be very powerful but it must be understood by the student and

appropriate, not just included for the sake of it. Where there is good understanding, the use of significance is employed and the results interpreted with regard to the hypothesis. If an investigation includes a range of quantitative data students should not miss opportunities to analyse the data statistically. The most successful students used statistics meaningfully and critically, showing an understanding of significance and the ability to evaluate the chosen methods appropriately and forensically. Effective use of Spearman's Rank Correlation Coefficient was quite frequently seen. Mann Whitney U tests and Chi Square tests are also appropriate in many circumstances and were occasionally seen. Students should be encouraged to indicate the hypothesis at the start of a statistical test so that the context is clear. However, it is not necessary to produce repeated full calculations of correlation tests - a single worked example is sufficient, with other results calculated on the computer and then interpreted. There were misconceptions for example where students tried to apply Chi squared tests for correlation, whilst conversely some attempted to use a Mann Whitney U test to establish a relationship between two sets of data. Often there were insufficient pairs of data for a Spearman's Rank Correlation (ideally a minimum of 12 values) or insufficient data to carry out a Chi Squared test (where the minimum frequency should be 5). A number of students who did use a statistical test avoided significance testing as a final step. Quoting the final outcome is important, but students should indicate what it means in the broader geographical context of the investigation. Simpler statistics such as percentages were well and frequently used. A number of times, all three calculations of central tendency were quoted without reason, and the Standard Deviation seemed popular but not always well-handled.

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 the methodology, the crucial aspect is the appropriateness 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, but rather less impressive were the explanations offered for these results, tending to be speculative as opposed to evidence-based. Some students lose sight of their original aims/hypotheses when interpreting the graphs/maps. It is critical to make clear links back to the purpose of the study. 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.

Most realised the need to examine and give explanations for anomalous results although strangely, some felt that anomalies were an inconvenience that got in the way of a successful outcome, rather than an opportunity to show greater geographical insight. Students are also reluctant sometimes 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 - a tiny unrepresentative sample is not likely to yield interpretations or conclusions which the student can be confident about.

Often what was missed from the interpretation was the requirement to indicate the degree to which the data is representative. Moderators were sometimes able to see evidence for this in the evaluation section, but it should form part of the critical examination of the field data. Similarly, only limited attention was given to the accuracy of data, which is also part of this strand. Many students produced an analysis that was over long and too descriptive. This is certainly an area where students could reduce the length of their reports. The focus should be on concise interpretation of selected data and reference back to theoretical understanding, based on the literature review.

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.

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

Note that the AO targeted here is AO2, so the student should be revealing insight into wider aspects of geography connected to the enquiry as they are interpreting the results. The links to theory and the literature review are the most 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 this to make judgement.

The majority of students showed some awareness of some of the implications of the findings and returned to the theoretical aspects that drove the study. There were excellent examples where students engaged with theory and geographical concepts throughout in their explanation of the data and the results. Some referred again to their literature review and took the opportunity to refer to the wider context throughout the investigation, including the final conclusion.

This element of the mark scheme tends to be a real discriminator. In the weaker scripts, the underpinning theory was not integrated into the analysis, nor was it used to help explain the results. The data was seen in isolation with each graph or table systematically described, so very little credit could be awarded. 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. There were often comprehensive bibliographies and many made effective use of footnotes. 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.

Amongst the poorer scripts there were some where the structure failed to show a logical sequence, or where 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 resolved with 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. More centres might provide guidance on how to present a bibliography following a recognisable format e.g. 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 4000-word guidance available for the main text. The written text 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 or no value in placing lengthy planning documents or other secondary information in the appendix.

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

Most students refer 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. A significant proportion were limited to practical or logistical issues including a list of excuses as to why the results 'didn't work', such as bad weather, poor equipment, even lack of time, rather than focusing on the detail of the issues involved. 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.

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. Some showed greater perception of the wider picture, taking into account 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.

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. There were some obvious ethical issues this year relating to Covid that students emphasised in their reports. 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. Some human geography enquiries which involve much interaction with the public, may need more consideration of the need for anonymity and potential cultural issues. Those where data is collected in more remote locations may stress the need for awareness of damage to fragile environments and possible 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. The higher scoring students developed their analysis into broader conclusions linked to geographical theory and saw the significance of their conclusions. They also developed

clear lines of reasoning, demonstrating a comprehensive enquiry process. 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. The best could effectively return to their overall aim and present a convincing well supported case, but with an awareness of to what extent the aim/s have been realised, and integrated the literature/theory from the start which underpinned the investigation.

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. Some students indicated what they believe to have discovered but did not relate to any evidence, which is essential. Some lost sight of their initial purpose altogether.

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.

Mark Ranges and Award of Grades

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