Questions and answers on the A Level independent investigation (NEA)

1. **Are there any changes being made to the requirements for the NEA with current Year 12 students in the light of Covid 19?**

There are no changes planned at this stage in delivering all aspects of the A Level course. Indeed, the Education Secretary has said that exams are to go ahead as normal for next year, but this may alter depending on the length of time that schools are closed. Clearly no off-site fieldwork activity should be undertaken until schools reopen and primary data collection can safely take place. Assuming that schools return in September and it is possible to visit sites for field investigation it may be feasible to carry out the NEA, although planned residential and day visits during the summer term will obviously have been lost. All schools will be in a similar position, and any changes in regulations for the NEA need to be agreed with all awarding bodies under the supervision of OFQUAL. The regulator has committed to consult on 2021 by the end of term, so we can expect to have some information on the status of the NEA by the end of July

2. **Is it possible for students to carry out field research without visiting sites?**

It has always been the case that some forms of online work could be classified as primary data, for instance online surveys, interviews and questionnaires. In the same way, it is feasible to make a case for the use of sites such as Google street view as a source of data.

The use of GIS, satellite imagery and remote sensing are ways that students could obtain field data through secondary sources whilst restrictions on visiting sites are in place, and it is likely that further advice will be provided on this if schools remain closed until well into the next academic year. Obviously one of the main principles of field research in geography is to interact with the environment and to collect relevant data on site at first hand. Some form of primary data will be required, but the proportion is not stated in most specifications, and it may be acceptable for an investigation to make greater use of secondary sources.

3. **What types of titles are unsuitable for an independent investigation?**

Some titles are too ambitious or large scale, for example “To what extent have urban regeneration schemes been successful in Bristol?” or “An assessment of the relationship between cliff profiles and geology in Cornwall”. Some may not be answerable eg “To what extent is extreme weather in south Devon the result of climate change?” Other titles tend to be descriptive and only provide limited opportunity for analysis or evaluation, for example “A study of land use patterns in Exeter city centre” or “An investigation of the effects of footpath erosion in Exmoor”. A question that looks into the future is unlikely to be successful, for instance sea level rise, the possible impact of a development or success of a regeneration project that is not fully completed. These are technically impossible to measure. Some titles consist of a question which relies on a data collection technique rather than a rationale for the investigation, for example “A transect across a sand dune ecosystem at Perranporth” or “An environmental quality survey of two neighbourhoods in Plymouth”. Others consist of truisms which state the obvious, for instance “Vegetation density changes inland from the high water mark at Studland beach” or “There are likely to be social and economic differences between Devonport and Mannamead in Plymouth". Some studies lack a geographical focus or cannot be justified in terms of specification content eg "To what extent does the River Camel conform to the Bradshaw model?"

4. **What makes a good title or research question?**

Effective titles will have a locational context and will explicitly link to a key concept, theory or process. The title could be in the form of a question, statement or hypothesis and may have an evaluative element. It can be studied at the small scale and is manageable and realistic. "To what extent have the decisions of corporate bodies changed place identity and lived experience in Gunwharf Quays, Portsmouth?" has an evaluative focus, a theoretical context and a specific location in the title. Similarly "Analysis of variations in soil compaction across the Valency valley and how these impact infiltration rates?" identifies specific variables which with suitable equipment can be measured in the context of the selected location.

5. **When is it appropriate to use a hypothesis-testing approach to an investigation rather than posing research questions?**

Hypothesis testing tends to work more effectively where the outcomes are numerical, countable or measurable. A hypothesis is a statement whose accuracy can be tested objectively using scientific methodology. It can be a useful approach when testing an assertion that one variable is linked to another, for example testing the idea that "during anticyclonic weather temperatures decrease from a city centre to the rural urban fringe", or the proposal that "people visiting Truro for shopping live mainly within 10 km of the city centre". Hypothesis testing is less successful when trying to test a statement that is over-ambitious and cannot be proven using field evidence, such as "Extreme weather in south Devon is the result of climate change". It is also less suitable when the data is qualitative in nature, for example "the building of the South Devon link road has had significant social and environmental impacts". One statement may serve as the overall enquiry title, with no more than 3 or 4 linked sub-hypotheses used to structure the work.

6. **What are the main reasons why some NEA reports are awarded lower marks?**

This can happen for a variety of reasons. The title may too broad or unmanageable, so the data collected doesn't allow the research question to be answered. The investigation may lack a clear geographical theory or theoretical context, which affects marks awarded for the literature review, as well as data interpretation and conclusions. Explanations are therefore not set in a broader geographical context. Some studies rely heavily on secondary data and show only limited evidence of first hand data collection in the field. Some of the data collection methods may be inappropriate as they fail to elicit useful information linked to the title. Sometimes there is misunderstanding of ethical issues, and this dimension is often left out of the written report. Sub-hypotheses or sub-questions may not be closely connected, so investigations become fragmented. Some work is formulaic, with similar presentation and analytical techniques, outcomes and evaluations. Presentation and analytical techniques may lack accuracy and the range may be limited to a few basic methods. Data samples may be small and unrepresentative, so data quality is poor and insufficient to draw meaningful conclusions.

7. **Is it acceptable to collect data samples on a mix of different topics, then decide on the titles afterwards?**

Titles should not be decided retrospectively. Students should determine their titles and submit their proposal forms before embarking on a programme of primary data collection. Those with similar aims can collaborate on sampling and data collection, and share data, but the work cannot be teacher-directed.

8. **How important is the literature review or theoretical context in an investigation?**

The purpose of the literature review is to obtain background information which may be used to explore concepts, geographical models and theories that are relevant to the idea or focus of the investigation. It may consider parallel examples and places and include details of the geographical context including locational details. The theoretical context should be linked closely to the theme of investigation and should ideally be returned to at various stages of the written report, for example when interrogating or interpreting results, when evaluating the investigation and when writing the conclusion. Common pitfalls are to copy chunks of textbook information that are only loosely tied to the investigation title, to depend on one or two sources only, to copy sections of text without acknowledging the source or the write the review in isolation, without referring to it in subsequent analysis.

9. **What is meant by the comparative context?**

This refers to similar studies that have been carried out on the topic being investigated. As part of the literature review the student may consider the outcomes of other investigations that have been undertaken in the past. The student may compare their own fieldwork locations to other people's research to determine whether the location is similar or whether the results are typical or not. In practice this may be difficult with certain titles, especially where there is only limited previous research.

10. **Can an independent investigation rely entirely on qualitative data?**

Using qualitative data alone can be fine, depending on the nature of the investigation. Some perception studies in changing places for example rely heavily on qualitative data. What is important is that the data is valid and linked closely to the research question or hypothesis.

11. **How important is it to include a statistical test in a written report if much of the data is quantitative?**

It is important to use the most appropriate ways of analysing and presenting the data that has been collected. If much of the information is numerical or quantitative there may be opportunities to use statistical techniques, for instance to show an association between two sets of data (Spearman Rank correlation coefficient) or to make comparisons between data in different categories (Chi squared test). It is essential to test the significance of any statistical test used. However if the student is not confident in using more complex statistics there are often alternative ways of analysing data, such as the use of scatter graphs with best fit lines or dispersion graphs showing median and interquartile range.

12. **Some students are keen to collect microclimate data from several locations at the same time. Is it possible to share the task of data collection with other students?**

It is perfectly acceptable for students to work collaboratively when collecting primary data. Indeed, working as a team can have real advantages especially where information is needed simultaneously from several sites. It may be important to indicate the precise role of the student in collecting data when describing or justifying the methodology. Note however that any secondary data must be collected individually.

13. **Several students are thinking of carrying out investigations based on coastal erosion or deposition and in sand dune environments and feel that there is not really an ethical dimension to their work. What should they be considering?**

All investigations must take ethical issues into account. Admittedly this will be more significant in some investigations than others. 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 rural and coastal locations may stress the need for awareness of damage to fragile environments and possible contamination of study sites. There may be concerns over trampling, damage to plants and animals or possible pollution, or the need to show respect to members of the public when carrying out surveys and measurements.

14. **Is it essential to carry out pilot surveys of the methods to be adopted in the field?**

It is good practice to carry out pilot studies, although not essential in every case. They can be useful in several different ways. For example a pilot survey may enable the investigator to pre-test questionnaires, check on accessibility and ownership of sites, find out when there are most visitors (days and times), talk to shop owners and find out if they can be interviewed at a convenient time, complete a brief risk assessment and consider ethical issues, collect any leaflets and look for links to online supporting resources. A pilot survey should give a clear insight into the feasibility and timings of an investigation, as well offering a practical opportunity to trial equipment and technique.

15. **How should presentation and analytical techniques be included in the written report?**

Ideally all data presentation and analysis should be integral to the report, and be linked to the interpretation of results. They should not be placed in a separate section or at the end of the investigation. The most effective way to analyse each data set is to embed the presentation methods on the same page as the data interpretation and analysis. It is important to include a range of appropriate techniques, some of which ideally have a spatial dimension, and some that are more complex or sophisticated.

16. **What should be included in the evaluation section of the written report?**

The mark schemes of the awarding organisations differ slightly, but the evaluating the investigation is not limited to consideration of methodology and practical limitations. It is not a list of excuses and problems. The report should reflect on degree of success of findings in relation to the original task set. It should accept the tenuous nature of conclusions related to broader geographical context. It may consider whether or why the conclusions might be applied to other places/contexts and try to explain why the conclusions might be invalid or wrong. The report should suggest realistic ways to extend and improve study and identify avenues for further research and may even question the validity of the initial aims and query the theory that underpinned the investigation. The ethical dimension may be included here, although this varies between the different mark schemes. Some students include evaluation of the methods adopted in the methodology section of the report.

17. **What are the features of a good conclusion?**

A convincing conclusion refers back to the original fieldwork question, is based on the evidence collected, and is consistent with the results and analysis. It should make clear links between the findings of the investigation and the literature review or theoretical context. Trends, spatial patterns and anomalies may be identified, linked and discussed. The outcomes for each of the sub-questions or hypotheses should be considered before providing an overall synthesis or summative conclusion.

18. Why are some overlong reports self-penalising?

Some investigations have been reported to be in excess of 10000 words, which is of dissertation length. The awarding organisations all say that the word guidance is 3000-4000 words but there is no direct penalty for exceeding the guidance. However lengthy reports can lose marks for various reasons. They may consist of several sub-questions or hypotheses that are not closely connected and the study therefore becomes fragmented. The literature review or theoretical context may be over-generalised and lacking in focus. Sometimes it encompasses the historical geography of the area or includes unnecessary lists of key terms with definitions. Most mark schemes don't require a detailed risk assessment in the written report, yet many provide this in detail. It only becomes relevant if it impinges on the ethical dimension. Interpretation and analysis of data may be highly descriptive and may contain repetitive passages that should have been edited out at the proof-reading stage. The conclusion may repeat some of the earlier information rather than summarising and synthesising the main findings.

19. Should all data recording sheets and questionnaires be included in the written report as evidence of raw data?

No, these should not be included in the final written submission. The data collected should be shown in summary data tables. It is a good idea to include one example of each type of recording sheet in the appendix or alternatively to include an annotated version in the written report when describing or justifying methodology. Appendices can consist of figures, tables, raw data, interview questions and sample questionnaires but they are not marked as part of the report.

20. How should literature sources be acknowledged?

Any diagrams or text that have been used or copied from secondary sources must be acknowledged. To provide a reference for a book or article the convention state the author's name, the year of publication, the title of the book or article and the name of the publisher. Similarly, online sources should be acknowledged, stating the site, author, date of access to the site and the URL. Ideally each source should be provided with a reference in the text, using a number and footnote at the bottom of the page. At the back the bibliography should list sources in alphabetical order.

Steve Durman

June 2020