Examiners' Report
Principal Moderator's Feedback

Summer 2022

Pearson Edexcel A Level
In Geography (9GE0)

Paper 04 – NEA - Independent Investigation

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After two years of CAGs and then TAGs it was a pleasure to read the Independent Investigations that candidates produced for the 2022 series.

These had been impacted by the effects of lockdown, and for 2022 series only, there were specific guidelines on the type of primary data that needed to be collected. Specifically, it was still a requirement for primary data to be collected but centres were encouraged to use innovative ways to collect data such as using the historic photo function in 'Street View' on Google Maps as well as the increased harvesting of data from social media. Centres were also encouraged to ensure that if there were difficulties in collecting primary data due to the restrictions imposed by COVID – 19, secondary data sources such as the IMD data found at CDRC maps could be used to supplement but not replace primary data.

Unsurprisingly given the restrictions of COVID – 19 there were fewer physical and more human titles than in 2019 but it was still pleasing to see some excellent investigations being carried out on glaciation particularly as less than 10% answered the glaciation questions in the Unit 1 examination.

Titles

There continued to be a wide variety of both physical and human coursework titles submitted this year. Inevitably, the success of regeneration schemes in urban areas was by far away the most popular urban title but it was pleasing to see some candidates attempting projects investigating perception as well as inclusivity. Physical titles were again mainly focused on coastal management and beach morphology but it was pleasing to see some very proficient investigations on drumlin orientation as well as some interesting projects on mangrove forests from overseas centre.

Overall, the titles were still at a manageable scale and in particular those that studied large scale regeneration projects such as 'The Olympic Park' focused on the impact on two small areas as opposed to the whole of Newham. Centres are continued to be encouraged to use the CAS service offered by Pearson, the online and face to face training sessions and the exemplar materials provided the Pearson web site.

Centres must, however, be wary of using all of one example as a 'template' for the whole of the NEA (Non-Examined Assessment). Candidates who tried to fit a different geographical situation to a 'model' NEA often did not work very well and in future candidates should view these examples as starting points for their NEA and not a colour by number approach.

Possibly as a result of the impact of COVID – 19 there was more evidence this year of candidates from the same centre having similar titles. Centres are reminded that the investigation is an individual investigation and although group work is acceptable for part of the investigation, each individual piece of work must have a data collection programme that is suitable for their title. This approach of collecting group work then had impacts on the marks awarded in the Field Methodologies and Data Collection section which will be discussed later. Although it is recognised that in large centres it is likely that the titles might be quite similar the differentiation between the students will become apparent in

- the selection of the range of sources,
- the comparative context and broader geographical considerations in the introduction,
- the use and selection of secondary data in the fieldwork section,
- the quality of the analysis, synthesis, evaluation and conclusions drawn in the final two sections.

If centres are concerned, they are encouraged to use the CAS service offered by Pearson, the online and face to face training sessions and the exemplar materials provided the Pearson web site.

Purpose of the investigation

The best candidates continued to demonstrate accurate and relevant geographical knowledge and understanding of location, geographical theory throughout the project rather than just in the first section usually titled 'Introduction'. Models and theories were to the fore in many of the very best projects and it was pleasing to see that many centres had not only continued to use the Egan wheel as a tool for assessing the success of regeneration but also other models which focused on what makes a good place. Occasionally, models were shoehorned into the investigation which had very little applicability – and then were disregarded throughout the rest of the investigation. Furthermore some models are very old (Burgess, Hoyt) and often used at the wrong scale and should not be used. Centres are encouraged to explain to their candidates that any model or theory used should be relevant and not simply put in for 'window dressing'.

It was pleasing to see that many centres had taken on board the advice offered in the last moderators report and there were fewer sections entitled 'Literature Review'.

Centres are, however, over-crediting descriptive material in Section A, especially largely irrelevant background and 'literature reviews' which add little: they are often unselective in terms of background material used – and selecting information that is relevant is a skill that needs to be encouraged. Instead, the best investigations showed careful reading around the subject carried out by the candidate which was then concisely written up in this section using a range of relevant sources.

There was one element of this section that was surprisingly missing in a substantial number of investigations – which was the development of accurate and comparative context. Centres are encouraged to inform their candidates of the usefulness of comparing their study location to other similar situations, not only in this section but crucially in either the Data representation, analysis and interpretation as well as the Conclusions and critical evaluation section. A key way in which to evaluate the conclusions drawn is to compare their findings to those found in similar locations.

Perhaps as a result of the increased uptake of EPQ's as well as the need to supplement their primary data with secondary sources, there was much evidence of both thorough and purposeful research which undoubtedly helped the candidates to produce high quality investigations.

A useful checklist for students might be to make sure that they self-assess their work using the following list

- ✓ *Accurate and relevant geographical knowledge*
- ✓ *A model and / or theory that can be tested*
- ✓ *Applies understanding to find coherent and relevant links*
- ✓ *Investigates a wide range of relevant geographical sources throughout the project*
- ✓ *Research information is used to construct a justified aim*
- ✓ *Manageable scale*
- ✓ *Appropriate framework*

Field Methodologies and Data Collection

As mentioned at the start, this was the section where for 2022 only there was guidance issued by JCQ on the collection of data. Primary data was still a prerequisite for the completion of the investigation but for 2022 this could be data collected without "going into the field". Indeed, there was evidence that candidates made use of technology to collect data by virtual means including;

- Online surveys, interviews or focus groups
- Use of Google Street view and webcams
- Social media platforms to engage with an audience or extract text

It is important to note that investigations based purely on secondary data has not been appropriate for past cohorts and were not considered appropriate in 2022. Further there was no difference in the 'value' of the type of primary data collected. Every investigation is unique and so it is impossible to say whether 'traditional' or 'virtual' primary data is better. Centres marked this section according to the mark criteria whether it was primary data collected in the field or 'virtual' primary data.

Regardless, whether it was 'traditional' or 'virtual' primary data the evidence of the 2022 cohort suggests that the key for a good project was that the candidate chose appropriate methods to collect a range of data and information relevant to the geographical topic that was accurate, precise and reliable.

It is in this context that the suitability of some of the group data collection techniques should be considered. In some cases, candidates tried to fit group data into an individual project often with the result that primary data that was collected was described, analysed and evaluated with very little relevance to either the key question or the title. These projects were unfortunately self- penalising as they failed to show how the results gained were synthesised.

There was evidence that in some cases there was pleasing, progress in candidates designing a valid sampling framework that was explicitly linked and appropriate to the geographical focus being investigated. Unfortunately for a substantial minority the explanation of what type of sampling system was used and why was not clearly explained. Many of these types of investigation simply suggested that "I used random sampling" without further explanation of why or how this was carried out – in most cases it was not 'random' at all. Centres are asked to discuss the importance of a sampling framework and in particular the explanation and justification of online questionnaires or other online surveys as this approach has major issues in terms of sampling, bias and ability to actually analyse data in a meaningful way. Online can be very useful but A*-B candidates have to recognise its limitations and show they understand how these issues might impact on their results. Often these surveys ended up with self-selected responses that may not represent the views of the 'population.'

It was however pleasing to report that most candidates have come to grips with what constitutes the ethical dimensions of field research methods. There were far fewer projects where the only considerations were a vague risk assessment (which in any case is not required for the investigation). However, there still some candidates who struggled and centres should remind their candidates to consider

- Research on living subjects
- Data storage
- Environmental impacts

Informed consent: it is important that people you research understand the research you are undertaking, its aims, methods and likely outcomes. You need to ensure that consent is ongoing - participants continue to give their consent, i.e. can withdraw at any

time. Participants are usually given an information sheet, written in appropriate language and style, to read before they decide to take part in the research. A consent form is also usual practice.

Anonymity and confidentiality: You need to make it very clear to participants whether the data they give you will be made anonymous (i.e. names and other identifiers removed) and kept confidential (i.e. not shared with other participants).

Management and storing of data: this may mean how you take steps to anonymise, file, label and store data securely. Note that you should describe how you will store data when in the field, where you will then transfer it to and how soon, deletion of files on mobile devices (including laptops), how you'll create a systematic way of versioning files, and a system for backing up data (where and when).

A useful checklist for students might be to make sure that they self-assess their work using the following list;

- ✓ *Chooses appropriate methods*
- ✓ *Range of data*
- ✓ *Designs a valid sampling framework*
- ✓ *Temporal sampling*
- ✓ *Spatial sampling*
- ✓ *Ethical dimensions*
- ✓ *Reliability*
- ✓ *Accuracy*
- ✓ *Precision*

Data representation, analysis and interpretation

Candidates are continuing to use a pleasing range of both cartographical and graphical presentational techniques. In particular the use of the geolocating package 'Survey123' has allowed candidates to display their data both spatially and precisely and in some of the work seen, this has aided the subsequent analysis of this data. However, it was also noted that some candidates had difficulties in ensuring that all of the data collected by this app was either relevant or synthesised. It was however pleasing to see that they very best projects continued to use other GIS packages to 'appropriately' display their data.

It was also pleasing to see that there continues to be a range of accurate statistical techniques being used to test the geographical significance of the data collected by the candidates. Due to the hard work of the centres and perhaps due to the number of statistical tests used in the other units, candidates are now more confident is using techniques such as Chi Square test or Student's t test as well as Spearman's rank correlation and the Mann Whitney U test. Centres are reminded, however, that the key word in this section is appropriate. In some cases, however, statistical tests were carried out only for the sake of carrying out a statistical test and these had very little relevance to the key question or the title of the project.

As suggested in last year's report centres are encouraged to recommend the RGS 'A Student Guide to the A Level Independent Investigation (Non-examined Assessment—NEA)' to their students with help on choosing the appropriate statistical technique.

There was, however, one element that was observed in some of the work seen that had an impact on the marks awarded - the lack of synthesis of the results. In some cases, there was competent analysis of the work which was very linear and lacking cross referencing with other results. This meant that such projects found it difficult to fully synthesise the results that they had gained. Centres are encouraged to suggest to their candidates that the best projects not only have a linear approach to the analysis but draw across the primary and secondary data to synthesise their results. Candidates should be encouraged to use more diagrams (mind-maps, spider etc) to try and show how their data links together (or contradicts their working hypotheses).

A useful checklist for students might be to make sure that they self-assess their work using the following list;

- ✓ Statistical skills
- ✓ Geographical skills
- ✓ Synthesis of results
- ✓ Statistical significance
- ✓ Appraisal of techniques and methodologies
- ✓ Clear and technically accurate presentation
- ✓ Rational evidenced based conclusions

Conclusions and Critical Evaluation

This is the section that candidates still find difficult. In some cases there is evidence that the section was 'rushed' and the candidates seemed pleased that the investigation was completed. In other cases, conclusions were made with little relevance to the title the candidate had started with.

Perhaps the one aspect of this section that was disappointing was the lack of primary and secondary data in the conclusions drawn. Centres are remined that a key characteristic of a level four conclusion is the selection of key primary and secondary data to substantiate their conclusions.

In addition, there is still evidence that candidates are not fully taking the advantage of evaluating their findings against other study situations and so developing their ability to meet the criteria of accurate and relevant geographical knowledge and understanding of location, geographical theory and comparative context. By doing this they would then be able to find coherent and relevant links between the investigation's conclusions and a broader geographical context to be made.

Yet the best candidates displayed a balanced and concise, well-developed arguments which were fully supported by the drawing together of a selection of relevant evidence.

A useful checklist for students might be to make sure that they self-assess their work using the following list;

- ✓ *Synthesises research findings to produce convincing conclusions which are fully supported*
- ✓ *A balanced appraisal of the reliability of the evidence and the validity of the conclusions*
- ✓ *Accurate and relevant geographical knowledge of*
- ✓ *Location*

- ✓ *Geographical theory*
- ✓ *Comparative context*
- ✓ *Coherent and relevant links between the conclusions and a broader geographical context*

Summary

From the evidence of the 2022 cohort the Principal Moderator would advise centres that the best projects were

On a Manageable scale
Utilised an appropriate framework
Choose appropriate methods collecting a range of data
Utilised a valid sampling framework that considered both temporal and spatial sampling
Considered Ethical dimensions
Ensured that if group work was used, they adapted this to their own investigation
Ensured that there were clear and technically accurate presentation techniques as well as the statistical analysis of the data
Using a mind map and/or spider diagram to synthesis their data
Developed rational evidenced based conclusions

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