

# 2021 VCE Extended Investigation written Externally-assessed Task report

## General comments

The advice provided in this document is an overview of the assessment process and trends within student work in 2021. Given the individual nature of student reports, and the particular demands of specific research methods, there continues to be a range of ways students can demonstrate skills and knowledge within each criterion. The illustrations within this document should be seen as some, but not all, of the ways that students may demonstrate knowledge and skill at a given level. It is also important to note that the most important overriding factor in assessing a report is how a student has presented a coherent, critically analysed and logical investigation. Their choices should not be based solely on the examples provided in this document or on choices made in other research reports or investigations. What is successful in one report may not be logical or coherent within the context of another investigation and will not necessarily lead to the same result. Choices with regard to method, report structure, participants, literature and findings are all individual to a student's investigation. The most successful reports explain and justify these decisions as they come to a conclusion about the central research question.

Although 2021 again presented some challenges for students, they maintained consistent quality in their written reports. Some students were required to rethink their methodological choices and the design of their research; however, the final reports were well presented and detailed. Students presented reports on a wide range of topics and thought creatively about the most effective ways to engage with their topic given the increased limitations of the year. It is not unusual for the direction of a research project to change in a normal year and the experience of navigating increased restrictions in 2021 perhaps afforded some students time to reflect more critically on their research design and consider the implications of different forms of data in answering their question. Students who coped well with the adjustments required to their investigation were able to account for their original intentions, reflect on the changes required in their investigation and discuss the implications of their choices on the data collection process and outcome of their investigation.

In some instances, the research question posed by students was too broad or contained too many variables to support success in the written report. Questions of this nature often make it difficult for a student to explore ideas in detail throughout their report and can result in a more generalised discussion that does not get to the depth of detail required to fully explore key ideas and concepts. Both teachers and students are encouraged to prioritise the development of the question in the early parts of the year. Consistently refining the question in light of the students' ongoing work is also an important process as the investigation progresses across the course of the year.

It is important to be clear that a report in excess of 4000 words does not equate to an improved result. All reports that exceed the word limit will be reviewed by the Chief Assessor as non-compliant with the task specifications, and may be subject to a score adjustment. Few reports submitted were well over the word count. It was clear that students had made careful choices about the most pertinent information to convey to the reader, and had spent time refining their writing to clearly communicate their investigation.

# Specific information

Each written report is assessed individually against the criteria. Comments regarding achievement levels as outlined below are for illustrative purposes only and do not constitute all aspects of a student's work that may contribute to achievement.

## High–Very high

At the highest ranges students demonstrated a level of critical thought, depth and coherence that not only tied all the aspects of their investigation together, but demonstrated a highly detailed understanding of the research area. These investigations were based on well-scoped, contained and focused questions at the centre of all aspects of the report. It was clear that these students had made conscious decisions about how each element of their investigation connected to their research question and that these decisions added value and complexity to their work.

Students in the high ranges demonstrated strong engagement with authoritative academic literature, including through critical analysis and synthesis of this material. At this level it is expected that students are consistently connecting their analysis to literature in every section of the report. They engage with an extensive range of existing research and use it to consistently support their own position, including in the discussion of their method and analysis of results.

The method and analysis of data in these reports was critically presented and again tied to the overarching purpose of the study. The choices made by these students in the discussion of their method and findings were deliberate and reflected critically on their work. The suitability of a method and the ways in which different data collection tools, participants or ethical considerations come to bear on a student's investigation were clearly and confidently set out. These students were able to explain the connection between different forms of data, where multiple tools had been used, and critically reflect on the methodological choices they had made. They made careful decisions about the most effective way to represent their data and accompanied it with a clear discussion of trends and key findings. Most commonly it was evident that students had synthesised and grouped their data according to these findings and considered how individual questions may be linked in order to create a more comprehensive sense of their research. Students at this level were able to make a connection to existing thought in their research field, consider any limitations to their findings, and explore the possible implications and interpretations that stem from this.

As expected, the writing style and fluency of students in the high ranges demonstrated evidence of extensive drafting, editing and refining so that the final report was a polished piece that reflected the time and energy students have put in over the year.

## Medium

At this level students presented a clear investigation, tied to a mostly clear and well-defined research question. In some cases, these questions may have contained too many variables or were too broad. There were some instances where it was clear the students were able to answer their question through the initial literature review. Ideally this required rethinking of the initial research question to enable more detailed investigation.

These reports were generally characterised by surface-level discussion of ideas and as a result missed opportunities to critically explore concepts in detail. They may not have made consistent connections between ideas or needed greater detail to allow them to explore a range of literature and the connections and/or disconnections between these. The range of sources a student engaged with may have been more limited, although still predominantly academic in nature, or may have been more heavily reliant on pop

culture or media sources without a clear need to do so. As a result of these issues, reports in the mid-range tended to lack the specificity and depth to reach the upper ranges.

These reports tended toward summary rather than critical analysis and engagement. This was evident in a range of sections, for example in the description of the methodological choices within these investigations rather than critical analysis and justification. This resulted in some reports reading as procedural descriptions and meant that the implications of the student's choices and their overarching rationale in light of the research question were not as clearly defined. Students at this level are encouraged to strike a greater balance between explaining their choices and justifying and critically analysing them in light of the research question. In some cases, these investigations also needed greater clarity on how different forms of data collection worked together. For example, where a student conducted a survey and interviews there may not have been a discussion of how these two forms of data worked together to respond to the question.

As they discussed their findings, reports in the medium range began to synthesise data but either needed to do so to a far greater extent, so that data was dealt with more systematically and thematically, rather than question by question, or needed to more clearly identify key trends rather than listing large sections of statistics or interview excerpts with limited discussion. Some students needed to consider the most appropriate forms to support the identification of key trends and ensure that data and tables were explained in terms of these key trends. At this level there were often general and brief links to existing literature but this area of work needed greater development to allow for a more fully realised conclusion.

The majority of these reports were clearly structured and applied the expected academic writing conventions. However, there were noticeable slips in expression and evidence that greater proofreading and accuracy of language was needed. In some cases these issues impacted the clarity of meaning. Alongside this, students sometimes missed the connections between ideas of sections of work and their report contained sections that did not clearly link together or where the reader was required to create the links themselves. Finally, a number of reports contained errors in referencing and reference lists at this level, resulting in inconsistent referencing or incorrect reference lists.

## Low–Very low

Student work at this level showed difficulty in critically engaging with and clearly explaining the investigation. These reports were descriptive, more likely to be brief or missing sections, or contained significant issues in the conduct of the investigation. While students at this level made an attempt to explain aspects of their investigation, their reports demonstrated sustained errors in expression, structure and depth of ideas. Where they engaged with academic literature this was extremely brief or focused on a very small number of sources. Websites, media sources, blogs and other less authoritative sources were relied on more heavily at this level and referencing issues were evident across the reports.

Large sections of these reports were solely descriptive and did not contain reference to research regarding established academic methods. At the lowest end of this band students may not have specified a clear method. Similarly, the discussion of data and findings in these reports was brief, may have included sections of raw unanalysed data without discussion, or was confused and not relevant to the central research question. As a result, the findings and conclusion to the investigation often lacked coherence, depth or links to the central research question. In some cases it was evident that students had run out of time in the latter half of their report and this had compromised their work and overall result. It is important that students spend considerable time analysing and sorting data in order to understand their results and present a logical conclusion to the investigation. Consideration needs to be given over a period of time to the most appropriate forms of data representation, the key pieces of data to be used to illustrate findings and the most important findings to the investigation itself. These are aspects that take revision, testing and in some cases multiple drafts, especially when more than one data set is involved.

A further area of work in these reports was the clarity and coherence of writing and academic conventions. Reports at the lower levels displayed areas of inconsistent voice and tone, issues in spelling and grammar,

and sections where the flow of ideas was not clear. In particular there were issues with the application of academic conventions in these reports, including the use of a consistent referencing system, accurate attribution of academic references both in text and reference lists, and in the use of subheadings and sections.

## Advice to students and teachers

While students made considered choices regarding the representation of data and findings in their report, this remained an area for further work. Overall, there is a trend of including data without explanation or analysis. It is essential that where a student includes data in their report, particularly as a result of their own data collection process, that the key trends and analysis of this data is included and not left to reader inference. Criterion 4 specifically focuses on a student's ability to synthesise and analyse their data. It is also crucial that students spend time considering the most appropriate graphical representations of their data to engage the reader and present clear trends. Representing data in a logical fashion is important; however, to succeed in this criterion, students also need to present an analysis of the data. They need to identify key trends, statistics and findings and use graphs, tables and figures to support this.

The 2021 written reports demonstrated several key issues that should be addressed in order to improve the quality of students' investigations and reports.

- While the representation of data using graphs was generally good, some students copied and pasted graphs that are prepopulated in survey software. It is important that data is represented in a logical and appropriate way in light of a student's investigation. Often the use of system-generated graphs does not allow a student to synthesise their findings in the same way and can lead to a superficial exploration of data. Students are encouraged to consider the most appropriate forms of data representation and to spend time analysing key trends before trialling the most coherent means of expressing this.
- Quite a few reports did not include sequencing strategies such as subheadings to indicate the sections in a report and to outline the key themes within a section. Students are encouraged to use these sequencing strategies to create a coherent report and indicate key ideas within their work.

It is worth noting that in 2021 students handled referencing issues well and the use of glossaries and key terms. Students were generally successful in using key terms in context, rather than solely in separate glossaries, and in using a range of strategies to establish the meaning of these terms across the report. In addition, the standard of referencing was improved overall. While there were still instances where students needed to more carefully reference, there was a greater clarity of reference lists and use of academic referencing styles.

## Assessment criteria

The first four assessment criteria broadly apply to the student's understanding of the research field and the conduct of their investigation in light of this. These are often evident in specific sections of the student's report; for example, the student's response to the research question (criterion 3) is often assessed through reviewing their research question and the methodological choices they have made. The last two criteria are evident across a student's written report and relate to the communication strategies, writing style and coherence of the report. These are assessed across the whole report.

### Criterion 1 – Knowledge and understanding of the research area

The central focus of this criterion is on a students' understanding and knowledge of their research field and their use of relevant terminology. This knowledge is demonstrated throughout the written report and is principally seen in the introduction and literature review in the earlier stages. Reports that scored highly demonstrated knowledge through reference to literature within all sections of the report, including in

discussing the implications of their findings and in justifying their method. They make consistent use of terminology appropriate to their field of study in a seamless and coherent manner.

The demonstration of strong knowledge requires students to engage with all key concepts within their question. This is where students who have questions that contain multiple parts or a significant number of variables may have greater difficulty demonstrating a depth of understanding, often due to the volume of information they are trying to cover. It is also where students who elected to combine their literature review and introduction, or to remove the literature review altogether, may have had greater difficulty in demonstrating high-level knowledge.

There was a trend toward using more academic literature as the basis of a student's research. The reports demonstrated strength in student knowledge and understanding of their research area. Reports at the higher levels included greater critical engagement with their literature and more consistent and explicit connections between the research question and the literature. These students were also more likely to engage with a wide range of academic texts, present synthesised analyses of key trends in this research and in some cases situate their own study in this context. The greater the level of description and lack of synthesis evident in a student's work, the more difficulty students continue to have in accessing the upper range marks for this criterion. Similarly, if a student focuses on a very small range of sources, or sources that are not clearly academic in nature, they limit their ability to demonstrate knowledge and understanding. A clear comparison can be made between those students in the upper ranges who in their literature review deal with academic material in a thematic manner, grouping articles together and exploring similarities and differences, and those in the mid to lower ranges who deal with individual pieces of literature on a paragraph by paragraph basis and thus lack synthesis. This further extends to the other sections of the report where higher scoring responses included a range of literature in each section, whereas lower-scoring responses may have only included literature in the introduction and literature review, or briefly made links in the discussion.

## Criterion 2 – Analysis and evaluation of argument and evidence

As they explore the existing knowledge in their field of study, students are expected to demonstrate an ability to critically analyse and synthesise this information. This not only becomes evident within the literature review but also in the later analysis of data in light of existing knowledge. Students who succeed in this criterion are able to critically evaluate trends in existing research and make explicit links to their own research question. This critical engagement should be evident across the body of a report rather than limited to specific sections. Students still developing this skill are more likely to present a descriptive account of individual pieces of research and make some brief links between ideas.

Criterion 2 is also where a student's critical thinking becomes more evident. This is in part where the focus on critical thinking throughout the course pays dividends for students and their writing. The critical thought evident in identifying and justifying connections between individual research and the student's own investigation is developed throughout the year as students engage in critical thinking activities through Area of Study 3. It is important that as part of this area of study students are given opportunities to practice the skills of critical thinking in the context of their own investigations.

## Criterion 3 – Response to the research question

The cornerstone of each investigation is the central research question and it is expected that students are consistently refining and working to understand the question through their investigation. While there continues to be some research questions that are too broad or focus on too many elements to be achievable in the timeframe of this subject, the majority of students presented questions that were considered, precisely worded and well thought through. They supported this with a clear method that was, on the whole, suitable to respond to the question they set out.

Despite the additional challenges of 2021, the methodological choices students made engaged with a range of research approaches. There was an ongoing trend of using systematic literature reviews as the basis of a

research project. Overall, there were clear improvements in the approach that students adopted when undertaking a systematic literature review; however, some students continue to see this approach as purely descriptive. It is expected that no matter what method is adopted students are able to critically engage with data. In the case of a systematic literature review, this includes exploring the process of selecting, analysing and synthesising literature. An exclusion and inclusion of criteria is one avenue of addressing this, but also needs to be accompanied by an analysis framework or criteria when literature is later read and synthesised. It is expected that students will undertake extensive reading and critical analysis of literature to achieve with this approach and students should be prepared to clearly outline the framework they have used to analyse their material. Students who undertake a systematic literature review and only focus on a very small sample of literature or who briefly describe a process of reading articles as their method have greater difficulty scoring highly in this criterion. Students are expected to do more than read and summarise existing literature. They need to add their own level of analysis and synthesis to this material to come to a finding. In the same way that a student who undertakes a survey or interview might closely analyse and synthesise their data, so too should a student undertaking a literature review as their primary method.

## Criterion 4 – Synthesis of findings and evaluation of the investigation

Criterion 4 relates directly to the way that key findings are presented within the report and data is analysed. In addition, it focuses on a student's ability to critically reflect on their investigation and resolve their question. At the core of this criterion is a student's ability to analyse data and it is ultimately this skill that is a determinant of success in criterion 4. Students need to make conscious decisions about which data is most relevant and the most effective way to display it to the reader. It is essential that students identify clear trends and do not simply list statistics or quotes. Reports that did not score well in this area did not present a logically structured or clearly analysed set of data or included irrelevant material. Students should explore different avenues for understanding and representing their data, and in particular the most appropriate trends to emphasise in light of a research question.

As students reach the end of their investigation there can be a temptation to try and neatly fit data into a clear-cut answer to their research question. To succeed in this aspect of the report a student does not have to come to a neat, succinct answer about their question if this is not the true result of their investigation. Reflecting on the data and using this to identify challenges, areas of conflicting results and limitations is also valid. Some investigations come to a clear ending in response to the central research question and some do not. Both results are equally valid as long as the student is able to synthesise their data, reflect on what the data indicates and evaluate the conduct of their investigation.

There were a few reports in which students presented data that was either not synthesised or not accompanied by any explicit analysis. In these cases, students tended to have included graphs or other visual representations of numeric data, or tables of information listing qualitative data, without presenting any accompanying analysis of what each graph demonstrated, the trend that was emerging or the relevance of the data to answering the central research question. It is expected that as students present data they explicitly analyse this and identify key trends for the reader. Higher range responses in this criterion presented logically sequenced data that developed key trends directly related to the central research question. They explored their findings in detail and engaged with academic literature to discuss the meaning of their results. Some students also explored areas of tension within their data and identified limitations within their findings and investigation as a whole.

## Criterion 5 – Clarity and effectiveness of writing

This criterion requires students to logically and deliberately sequence their information for the reader and to use language appropriate for a non-specialist audience. The successful demonstration of both these skills is essential to the readability of a written report. It is expected that students present a well-edited, polished

piece of writing that uses precise language and makes deliberate choices about the best way to communicate ideas. At the most basic level it is expected that students demonstrate a strong grasp of spelling, grammar and punctuation, and that their ideas develop logically both within and between paragraphs.

For some reports the adjustment of language to suit a non-specialist audience is a significant consideration, particularly for those students who deal with complex scientific concepts or where the key ideas are not necessarily drawn from common knowledge. Students who score highly in this criterion use a range of approaches to adapt their language for a non-specialist audience including redefining key terms and using analogies, metaphors, diagrams and anecdotes. It is important to note here that adjusting language for a non-specialist audience does not mean that the sophistication of a report needs to be removed or that language needs to become basic. Dealing with complex terms and concepts is expected in this study and the adjustment of language does not require students to shy away from this complexity, but to make it accessible to a non-specialist.

In 2021 the adjustment of language continued to improve and there was a wider range of techniques used to achieve this.

## Criterion 6 – Observance of report writing conventions, including citations and bibliographic referencing of sources

Criterion 6 focuses on a student's understanding of the structural conventions of a research report, including the referencing and academic citations used to attribute ideas to others and the structure of the report as a whole. There is no one preferred structure or referencing style required for the written report and students should be encouraged to adopt a style that best fits their investigation and coherently presents their ideas. It is expected that all students use academic conventions including subheadings and other sequencing structures to guide the reader through each key component of their work. Reports that scored highly used headings at multiple levels as well as chapter introductions and conclusions. They consistently applied a referencing system and presented an alphabetically ordered reference list that allowed sources to be easily identified. The majority of reports demonstrated a good grasp of these skills. Inconsistent referencing or an unclear structure are most likely to limit achievement in this criterion. In 2021 there was a noticeable improvement in the consistency and clarity of referencing across student reports.