

# 2017 VCE Extended Investigation written examination report

## General comments

The VCE Extended Investigation written report draws together the different elements of student research over the course of the year and provides students with the opportunity to present a response to their research question. This report discusses the broad trends in student reports across the subject. There are many ways in which students can meet the criteria; the illustrations set out in this report are just some of these. It is most important that students' research choices are consistent with their research area and the style of their investigation.

As students engage in the process of writing their final report they should be provided with guidance about balancing the length of each section. Students need to consider where more detail or elaboration is most appropriate in which sections and distribute their word count accordingly. For example, in general it is expected that students will spend some time situating their work in the current literature.

In 2017 many reports contained research questions comprised of multiple parts. Teachers and students are reminded that the investigation undertaken must be reasonable and manageable within the scope of the year-long time frame. Presenting a clearly scoped and contained question that focuses on one core issue or problem is more likely to result in a coherent, contained and manageable investigation. Similarly, a research question with one clear purpose, undertaken in detail and with critical thought, is just as likely to yield a complex investigation. The addition of more ideas can in fact limit a student's ability to engage adequately in the ideas of their research field and demonstrate depth in thinking.

A number of students used footnotes to include additional information. While this is accepted academic practice, footnotes should not be used to reduce the word count of a report. Students should follow the academic conventions surrounding footnotes and may need to review them across the year.

A number of students submitted reports under or over the word count. The expected word length for the written report is 4000 words, with a tolerance either way of 10 per cent. This word count reflects the degree of work involved in conducting an investigation over the course of the year. Students with significantly lower word counts, while still able to access most mark ranges within the criteria, are likely to have demonstrated more limited knowledge of their investigation. Students who submit reports in excess of the word count need to be cautious that their work has not become too wordy, and that the clarity of their investigation is not lost. While no marks are awarded for word count, this aspect of a student's work can impact on the clarity of the report and depth of ideas. The VCAA may check and review reports that exceed the word count by more than 10 per cent.

Turnitin is used to check the authenticity of students' writing. It is important that students understand the purpose of referencing and the ways in which paraphrasing and direct quotations should be used. It is not, for example, academically acceptable for students to copy sections of existing literature and adjust a few words before referencing at the end of the sentence. Students

need sustained exposure to the most appropriate ways of paraphrasing work, and to have this reinforced not only in the written report but in their writing across the course of the year.

## 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.

### Very high – High

Written reports at this level were marked by a sophisticated, articulate and considered exploration of the student's investigation. Students demonstrated a strong knowledge of their research area through engagement with a range of academic literature, and made clear connections to this across their work, including in the discussion of their findings. As they engaged with this literature, students were critical in their ability to identify tensions and congruence in existing knowledge, and to synthesise the key ideas of a range of research. They endeavoured to situate their own investigation in this context and use literature to support the relevance of their own study, building a case for the usefulness of their investigation.

The methodological design described in these reports was explored in detail, critically justifying the design and process of investigation. Students often made links back to their overarching research question as a means of justifying their data collection. The discussion of the method within these written reports moved beyond description to include consistent justification, and demonstrated an ability to draw together multiple data collection elements to respond to the research question.

Data collected was well synthesised and often grouped into overarching themes to identify significant findings within the investigation. The visual representation of data within these reports was thoughtful, clear and purposeful. Consideration of the most effective means of visually representing data was evident. Rather than dealing with individual questions from a survey, for example, the data analysis in these reports synthesised multiple sets of data and dealt with the meaning within this collectively. The implications of findings were explored in detail, alongside consistent links between their own findings and existing knowledge in the research area. Students at the highest point in this range also extensively evaluated and reflected on their investigation, embedding this throughout their report. This included a discussion of the limitations of their work and the impact of this on the conduct or results of the investigation, and considerations for future research.

These reports were clearly adjusted for a non-specialist audience but maintained a level of complexity in their engagement with concepts within their research. There was evidence of extensive drafting and editing to present a coherent, considered and well-written report. The structure of these reports was clearly articulated and the conventions of academic report writing, including the use of references, subheadings and writing style, were consistently applied.

Students toward the lower end of this range may have missed some opportunities to critically engage with their research material; for example, summarising existing research rather than synthesising it. Typically, these students made some connections between literature, their investigation and their findings but needed to further expand this discussion. In some cases the presentation of data lacked the same degree of sophistication, and the findings within these reports therefore needed further clarity.

### Medium

Students achieving in the medium range demonstrated a sound understanding of their investigation despite gaps or a lack of critical engagement with their investigation. These students demonstrated general engagement with their research area and were able to articulate some

connections to existing research, although there may have been evidence of engagement with a small number of sources or with less authoritative sources. This was sometimes accompanied by a brief overview and reduced synthesis of ideas. For example, rather than exploring the commonalities or differences among existing resources, students tended to deal with studies individually. Their literature review contained larger sections that were descriptive rather than highlighting key trends across different pieces of research. In some cases, students emphasised dictionary definitions of key terms, rather than those that were drawn from academic research. This limited their ability to engage with the complexity of the key terms within their investigation and demonstrate a deeper level of knowledge.

In discussing their method and findings students presented an informative, often procedural, description of their work. These reports would have benefited from greater justification and greater connection of the student's research choices to the original aims of the investigation, and existing methodological research. For example, students who utilised more than one research method were likely to have dealt with these individually, and missed making connections between the two sets of data and the benefit of this approach in their investigation.

When discussing their findings, some students reported data based on individual survey/interview questions rather than synthesising their work into key findings. The representation of data was therefore less focused; for example, students may have relied principally on one graph format or included unnecessary graphs in their report. These reports needed to reflect further on the purpose of visually representing data and the need to focus on synthesis, and the representation of information that could not be easily explained without visual aid. Despite this, these reports presented a level of synthesis in presenting their key findings and reaching an overall conclusion. Some students engaged critically with the limitations of their work; however, there was a general need for greater detail and critical analysis in this aspect of their work. Limitations tended to be described rather than critically discussed, or the implications of the limitation for the investigation were not clearly articulated.

The majority of these reports were clearly structured and applied the expected academic writing conventions. There were likely to be noticeable slips in expression across the writing or the need for greater proofreading and editing to clarify the meaning of sections. Some reports needed to develop the cohesion of ideas within each section, and across the report as a whole. They contained sections that did not clearly link together, or where the reader was required to create the links themselves.

### **Low – Very Low**

Students who achieved in this range provided a brief, general summary of their work and demonstrated inconsistent engagement with the research process. They attempted to explain their investigation and in some cases briefly explain connections to existing research. Where this occurred, it took the form of brief acknowledgment of sources or engagement with a small number of less authoritative sources. This often included blogs, news articles or websites without authority in the area. Some students demonstrated limited engagement with literature overall and there was little evidence of referencing or reading in the field.

A brief, solely descriptive, outline of the method was presented by some students in this achievement range; however, this did not include key elements of their investigation, such as a discussion of participants or data collection methods. Some students at the lower end of this range listed their method as a chronological procedure without explanation. The discussion of findings at this level was either brief or confused, for example, presenting a range of statistics without explaining their meaning/purpose. The data displayed within these reports was often presented through graphs; however, the purpose and focus of these was sometimes unclear, or the data was not clearly connected to the research question. As a result the key findings of the research were either brief or not clearly connected to the purpose of the investigation.

The structure and writing within these reports was often problematic. The voice and tone of writing was sometimes inappropriate for a formal academic report, or was inconsistent across the report. There were also a number of points where the connection between ideas was unclear or where irrelevant information had been included. These reports also demonstrated an inconsistent application of report writing conventions, including the use of headings, layout and referencing.

### **Advice to students/teachers**

- Some students identified themselves or their school as part of their report. Students and teachers are reminded that identifying information should not be included in the written report. In some cases, the suburb of the study, where human participants are used, is relevant and should be included. This is the extent of identifying information that would be expected.
- Students do not need to come to a positive conclusion regarding their original research question. In some cases, the data collection and analysis process may reveal inconsistencies or contradict the initial hypothesis presented by the student. Critically reflecting on the outcome of the investigation, suggesting the need for further research or identifying unexpected findings are all aspects of authentic research and, where relevant, should be included in the student's work.
- Identifying the research question on the front cover of the report is useful in providing immediate context for assessors. It is important that this is then carried through the rest of the written report and is an integral part of the student's investigation.
- Some students struggled to adjust their research for a non-specialist audience. Those who did successfully often reinforced definitions across their presentation and used analogies, metaphors or diagrams. These are not the only means of adjusting language and students should consider the best way to achieve this in the context of their research.
- Where relevant, students should deal with the ethical issues in their research. An extensive discussion is not relevant for all studies and should only be included where ethical issues exist and have been dealt with in the conduct of the investigation.
- Some students italicised quotes and included web links for academic journals and this had an impact on the clarity of students' writing and use of academic conventions. Unless specifically necessary to indicate emphasis within a quote, the use of italics should be avoided. In the same way, the use of web links for journal articles is not a necessary component of academic referencing and can sometimes confuse the location of the source in a reference list. URLs are generally only necessary where a website has been referenced within a report, not to indicate the location of an online journal article.
- Further time should be invested in ensuring students' data collection is not overly simplistic or limited in scope. Continued work is needed within each investigation regarding the design and justification of the research method to ensure that it engages in a detailed manner with the research question.

## **Assessment criteria**

The first four assessment criteria broadly apply to the ideas within a student's investigation and are often evident in specific sections of the written report. The last two criteria relate more explicitly to the communication strategies, writing style and execution of the report and are assessed across the body of writing.

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

This criterion focuses on students' knowledge of their research field and engagement with relevant academic literature. This is typically demonstrated through the introductory section and literature review within the written report, but is reinforced in the later discussion section where students are expected to make connections between their own findings and the existing body of academic

knowledge in their field. It is expected that the knowledge demonstrated encompasses the range of key terms within the student's research, rather than selectively focusing on one.

Overall, students consistently demonstrated a good depth of knowledge regarding their investigation and its position within existing academic literature. The difference between students who achieve highly in this area of their report and those who score in the mid to lower ranges is the depth, complexity and synthesis that is evident within the student's work. Students who achieved highly dealt with a range of authoritative literature and consistently synthesised the ideas within this. They made connections between different pieces of research and identified areas of commonality or tension. Students who achieved lower scores tended to deal with each piece of research individually or provide a greater level of descriptive summary, rather than focusing on the key arguments within each piece that linked to their own investigation.

The depth of a student's understanding demonstrated in their written report needs to be given considerable weight as it forms the basis of decisions they make about their investigation. The literature review is an important component of their thinking, both in order to demonstrate the scope of their research project and set up the key ideas they will later engage with. Students are therefore expected to demonstrate a degree of detail and depth of thought within this area of their work. They should avoid large claims that cannot be substantiated with literature and ensure that they do not present a generalised discussion, instead focusing on interrogating their key ideas in detail. It is also important for students to consider the range of sources that are most appropriate to engage with. While some investigations require engagement with media texts this was not true of all reports. The use of sources including websites and media texts (such as newspaper articles) should be carefully considered in the context of each student's investigation and used only where applicable.

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

Criterion 2 relates to the student's ability to demonstrate critical thought regarding their own investigation, and the arguments and evidence they encounter in existing academic literature. It requires students to articulate links between key concepts, theories and arguments relevant to their investigation. The highest-scoring reports clearly identified key pieces of research and the ideas within these, making coherent and relevant connections between these ideas in order to situate the student's own research. Mid-range reports were more likely to group key pieces of research together but did not reach the same level of synthesis in drawing out the key ideas and issues within these. At the lowest level, students dealt with literature individually and without synthesis or consistent analysis. They either provided a descriptive summary or were unable to identify key ideas or arguments relevant to their investigation.

Students with high-scoring reports also demonstrated a level of connection between their literature review and the later analysis of their own data. They made relevant connections between the literature and key ideas set out in the literature review, and the way that this was supported or contradictory to existing literature. This demonstrated a level of critical thinking regarding the key ideas within their own investigation and an ability to situate their work in the context of existing argument and evidence.

### **Criterion 3 – Response to the research question**

The highest-scoring written reports kept the research question at the centre of their work, making consistent links to this across the investigation. This was initially evident in the research question itself, where students are expected to articulate a well-thought-through and focused research question that drives their research. Questions that are broadly expressed and lack specificity are often those that create issues within a student's investigation and cause difficulties in developing a focused method and clear findings in the later part of the year.

Some students relied principally on a literature review as their primary research method. Some of these students experienced difficulty in articulating the process undertaken in their literature review, for example, in selecting and analysing the literature. There were also some reports where the method adopted was not the most suitable for the research question and was undertaken as a result of convenience or ease of completion. It is important that the methodological choices students make are carefully considered in light of their overarching research question. The benefit of the methodological approach in answering their specific research question should be at the forefront of students' minds when designing their investigation and when reporting their approach in the final written report. Surveys were a dominant method of data collection across investigations; however, other research methods would frequently have been more applicable either as a replacement to the survey or to further enhance the data generated within the survey.

The highest-level reports developed a methodology that was highly relevant to the student's investigation and that was clearly justified in light of its contribution to answering the research question. Where more than one data collection method was utilised, these reports made clear connections between the different sources of data, and the ways that these worked together to more thoroughly investigate the research question. Mid- to lower-level reports presented methods that were either more tenuous in their link to the research question or that required greater justification. These reports tended to describe the procedural elements of the method rather than engage with the strengths and weaknesses of the approach.

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

A central element of each written report is the key findings that emerge from the investigation. Criterion 4 deals specifically with the way in which the findings of the investigation are reported and used to develop a conclusion. It focuses on the response provided to the research question and the level to which students have understood the meaning, relevance and limitations of their work. This is typically demonstrated through the findings/analysis, discussion and conclusions sections of the written report.

Students who scored highly for this criterion embedded the limitations and refinement of their work across the latter half of their report. They discussed areas including bias, adjustments needed to their methodology and areas for further investigation based on contradictory or limited findings. In order to achieve highly for this criterion, students needed to make specific connections to their own research. They needed to outline specific limitations in their own approach and the impact of these on the result of their work. The data selected in these reports was clearly synthesised and responded directly to the research question.

The analysis of data in particular separated high- and low-scoring responses in this criterion. Students who were able to make links between the different elements of their data were more likely to present a detailed and coherent discussion of their research. Students therefore needed to be selective in their use of data. Lower-range responses tended to list individual survey questions or results, without making connections to the overarching research question or connections between different pieces of data. As a result the response to their research question tended to be vague or briefly expressed. In addition, lower-range responses tended to list general limitations, without clear reference to the student's own work or explanation of the impact of these on their study.

When discussing limitations, some students listed time constraints and their own lack of organisation rather than limitations in terms of the design or conduct of their research. While these may have been limiting factors in the conduct of the investigation, they are not appropriate limitations to include in a research report as neither is relevant to designing or conducting a research investigation.

### **Criterion 5 – Clarity and effectiveness of writing**

This criterion deals specifically with the writing style and voice of the written report. Students were expected to submit a refined, edited and coherently structured report that was reflective of a year's work. As such it was expected that students' work was free from spelling and grammatical errors, and was structured logically and coherently.

A further essential element of student writing is their ability to adjust language for a non-specialist audience. Some students had difficulty in this regard and needed to be guided to consider the adjustment of their language throughout the research process, not just as they complete their written report. Students who achieved higher scores adapted their language to the context of their subject matter, using strategies including metaphor, analogy and diagrams.

An issue of note in 2017 was the use of abbreviations across student reports. While abbreviations can be useful to condense established terminology or organisations, the overuse of abbreviations can cause issues in the structure and fluency of sentences. Some students unnecessarily abbreviated words in an effort to reduce their word count. Abbreviations should only be used where they are established in the field and necessary for readability.

### **Criterion 6 – Observance of report writing conventions, including citations and bibliographic details**

This criterion related to the formatting and conventions of an academic research report, including the accurate use of referencing. It is important to recognise that there is not one preferred form, structure or referencing system. The expectation is, however, that students present a logical and clearly structured report that makes consistent use of a recognised referencing system.

Students who achieved in the mid ranges for this criterion were likely to have inconsistencies in their referencing or areas where the structure of their report became unclear. The use of subheadings is advised for all students as an initial means of setting out the progression of their ideas. Within each section, however, there is still an expectation that students use cohesive devices to make connections between their ideas, and the different facets of their work. Students who achieved in the lowest ranges for this criterion were those who had minimal referencing in their reports and/or where the reader was not able to follow the structure of the report and development of ideas.