

2020 VCE Extended Investigation written Externally-assessed Task report

General comments

In 2020 students completed Externally-assessed Tasks (EATs) based on the adjusted *VCE Extended Investigation Adjusted Study Design for 2020 only*. The EATs provided students with the opportunity to demonstrate and apply a range of knowledge and skills.

The advice provided in this document is an overview of the assessment process and trends within student work in 2020. Given the individual nature of student reports, and the particular demands of specific research methods, there is 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 overriding factor in assessing a report is the way that a student has gone about presenting 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 with the aims 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 highest-scoring reports explain and justify these decisions as they come to a conclusion about the central research question.

While 2020 was a unique year, most students maintained consistent quality in their written reports. Although many students were required to rethink their methodological choices and the design of their research, overall the final reports continued to be 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 2020. 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 2020 perhaps afforded some students time to more critically reflect on their research design and consider the implications of different forms of data in answering their question. Those students who successfully made appropriate adjustments 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.

The scoping of the central research question requires considerable time and thought early in a student's investigation. The question sits at the heart of all research choices throughout the year and therefore has an ongoing impact on the success of the research project. A research question that is focused, contained and allows the student to demonstrate a detailed knowledge of the field will best support a successful investigation. It supports students to select appropriate research method(s) (Criterion 1), collect detailed and focused data (Criterion 3), and synthesise findings more effectively (Criterion 4).

There were instances where 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 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 student's ongoing work is also an important process as the investigation progresses.

2020 saw an increasing number of students who combined their literature review and method sections. While there is not a preferred report structure for this subject, and students are encouraged to adopt a structure that suits their investigation, this needs to be done in the context of the assessment criteria and the logical development of ideas. In some cases the decision to combine the introduction and literature review either did not clearly articulate the student's research intentions or the design of the investigation, or limited the depth of the student's discussion of existing literature. This had the potential to impact student performance in both Criteria 1 and 2. Where a decision is made to adjust the structure of the written report, this needs to be done in the context of the criteria and with reference to the expectations of the reader.

Few reports were submitted over or under the word count this year. 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

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

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

High-scoring 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 are based on well scoped, contained and focused questions that sit 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 who scored in the high ranges demonstrated strong engagement with authoritative academic literature including through critical analysis and synthesis of this material. At the upper end of this band, students were able to situate their own work in the context of literature, identifying gaps and areas of agreement in literature from a range of countries and time periods. At this level it is expected that students are consistently connecting their analysis to literature in every section of the report and engaging with an extensive range of existing research, consistently supporting their own position with this. This includes 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 this 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 high-scoring students was excellent. There was evidence of extensive drafting, editing and refining so that the final report was a polished piece that reflected the time and energy students 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 in this range in which students were able to answer their question through the initial literature review, which ideally required rethinking of the original 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/disconnections between these. The range of sources with which a student engaged 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 show a general understanding of the research area and key terms but lacked the specificity and depth to reach the upper ranges. They tended to contain relevant information, which was presented more as summary than critical discussion.

There was a tendency toward summary and 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 clearly defined. Students at this level should be encouraged to strike a greater balance between explanation of choices and justification and critical analysis of this in light of the research question. In some cases, these investigations also needed greater clarity regarding the way that 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 instead of listing large sections of statistics or interview excerpts with limited discussion. Some students presented data in tables or graphs but needed to consider the most appropriate forms to support the identification of key trends. They also needed to ensure that data and tables were explained in terms of 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 a more fully realised conclusion to be presented. Students were mostly able to identify general limitations in their work,

however, needed to consider more carefully the design choices of their investigation rather than factors such as time or resources unless these were genuinely unforeseen occurrences.

The majority of these reports were clearly structured and applied the expected academic writing conventions. There were noticeable slips in expression within these reports and evidence that greater proofreading and accuracy of language was needed. In some cases these issues impacted the clarity of meaning. Alongside this, students at this level sometimes missed 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. Academic attribution is an important skill for students to master early in the year as they undertake their initial work in school-based assessments. It is important that referencing is given appropriate time and weight in the classroom so that students accurately and effectively reference their ideas.

Low–Very Low

Student work at this level did not successfully critically engage with the investigation. These reports were largely 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. Engagement with academic literature was extremely brief or focused on a very small number of sources only. 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.

Often students at this level presented a method that was either brief or did not include sufficient information to fully understand the data collection process of their investigation. These sections were fully descriptive and did not contain reference to research regarding established academic methods. At the lowest end of this band students did not specify a clear method at all. Similarly, the discussion of data and findings in these reports was brief, may have included sections of raw unanalysed data without discussion, or was 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 iterations, especially when more than one data set is involved. Creating clear timelines for the analysis of data and completion of the findings, analysis and discussion sections of the investigation is therefore something that teachers and students alike need to be aware of as the submission date nears.

A further area requiring 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 in a reference list, and the use of subheadings and sections.

Advice to students and teachers

While students generally make more considered choices regarding the representation of data and findings in their reports, this is an area requiring further work. Overall, the quality of graphs and data continues to improve, however, there is an increasing 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. 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 written reports demonstrated several key issues that should be addressed in teaching and learning to improve the quality of students' investigations and reports. These include:

- Changes in writing voice and font across a report. It is important that students maintain a consistent approach to writing and style within their work. This assists the reader in understanding the development of a student's argument and in following the development of their ideas.
- The representation of data using graphs has improved, however, some students copy and paste graphs that are pre-populated 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.
- Greater use of subheadings and attention to reference lists. This year there was a slight reduction in the use of sequencing strategies, such as subheadings, to indicate the sections in a report and to outline the key themes within a section. Students should be encouraged to use these sequencing strategies to create a coherent report and indicate key ideas within their work.
- Some students continue to use glossaries to define key terms out of context rather than in the body of writing and in the context of the term's use. Students need to consider the most appropriate means of introducing key definitions within their report.

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

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0	0.2	3	5	11	17	23	18	13	8	7.0

The central focus of this criterion is on student's 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. Higher-scoring students demonstrate their knowledge through reference to literature within all sections of their report, including in discussing the implications of their findings and justifying their method. These students 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 why students who have questions containing multiple parts or a significant number of variables may have greater difficulty demonstrating a depth of understanding, due to the volume of information they are trying to cover. It is also why students who elect to combine their literature review and introduction, or to remove the literature review altogether, may have greater difficulty in demonstrating high-level knowledge.

Many students used academic literature as the basis of their research, although there remain some students who rely on popular culture or media texts as the basis of their knowledge. Making the decision to use media texts and popular culture sources may be applicable in some circumstances, however, this is usually connected to a topic where a significant body of research does not already exist, or where the focus of the question is specifically tied to these sources.

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. Higher-scoring 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 students' work, the more difficulty they will have in accessing the full range of 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 deal with academic material in a thematic manner in their literature review, grouping articles together and exploring similarities and differences, and those in the middle 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 in which higher-scoring students included a range of literature in each section, whereas lower-scoring students 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

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0	3	5	10	16	19	19	17	9	4	6.4

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.

A number of students presented detailed historical background to events or ideas connected to their research, but did not explicitly engage with academic research in the field. It is important to note that while historical background may be relevant, it needs to be accompanied by analysis and critical evaluation of research.

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 Unit 3, 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

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0	2	5	10	17	19	19	15	10	4	6.3

Success in this criterion requires both the construction of a sound question and clear decision making regarding the most appropriate approach to answering this 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 continue 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. These students 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 data collection for some students in 2020, the methodological choices students made in order to answer their research questions continued to be more refined and thoughtful. Students engaged with a range of research approaches as they conducted their investigations. There was a significant portion of students who elected to undertake a survey, however, there was some improvement in the identification of where this was the most suitable method for the question posed. There was also a trend of using systematic literature reviews as the basis of a research project. Overall, the approach that students adopted when undertaking a systematic literature review was successful, 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. Extensive reading and critical analysis of literature is expected 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 are unable to access full marks in this criterion. It is expected that students have done 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 must closely analyse and synthesise their data, so too should a student undertaking a literature review as their primary method.

Students' ability to explain their research approach and give a clear account of their data collection choices was a strength across the written reports. There was a distinct difference between those students who presented purely descriptive accounts and higher-scoring students who gave critical justification of their choices. Of note this year was the number of investigations that employed more than one source of data collection. The students who undertook this most successfully were able to articulate clear links between the different forms of data collected and the way that the combination of information assisted in responding to the question.

Criterion 4 – Synthesis of findings and evaluation of the investigation

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0.2	2	5	12	13	18	19	17	11	3	6.4

Criterion 4 relates directly to the way that the 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 what data is the most relevant, and the most effective way to display this to the reader. It is essential that students identify clear trends and do not simply descriptively list statistics or quotes. Lower-scoring students in this area did not present a logically structured or clearly analysed set of data or included irrelevant material. Teachers are encouraged to support students in the data analysis process by exploring 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. It is important for students to realise that research does not always result in a clear or expected answer. The results may lead the student down a different path than they anticipated, raise a number of questions that remain unanswered, or simply reveal that a different approach was needed to tackle the investigation. All of these are valid findings and can still result in a student scoring highly in this criterion. To succeed in this aspect of the report, a student does not have to come to a neat, succinct, answer to 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 of these outcomes 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.

A significant number of reports presented data that was either not synthesised or that was not accompanied by any explicit analysis. In these cases, students included graphs or other visual representations of numeric data, or tables of information listing qualitative data, without actually 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-scoring 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

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0	1	3	6	12	18	22	19	14	6	6.9

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 an 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 dealing with complex scientific concepts or where the key ideas are not necessarily drawn from common knowledge. High-scoring students used a range of approaches to adapt their language for a non-specialist audience, including redefining key terms 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.

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

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	0	0	1	4	5	12	18	20	22	12	7	6.9

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, however, expected that all students use academic conventions, including subheadings and other sequencing structures, to guide the reader through each key component of their work. Higher-scoring reports may use headings at multiple levels as well as chapter introductions and conclusions. They consistently apply a referencing system and present an alphabetically ordered reference list that allows sources to be easily identified. The majority of reports continue to demonstrate a good grasp of these skills.

Inconsistent referencing or an unclear structure are most likely to limit achievement in this criterion. Some students did not reference accurately or consistently across the report, and presented reference lists that were missing key information, included references not mentioned in the body of the report or that were not in a logical alphabetical order. These aspects of writing contribute to the clarity of a report and the student's ability to demonstrate their position within the existing academic field. It is therefore important that referencing is carefully checked and refined as the report is finalised.