2020 VCE Extended Investigation Critical Thinking Test report

General comments

In 2020 the Critical Thinking Test was based on the *VCE Extended Investigation Adjusted Study Design for 2020 only*. Students generally scored well and understood what was expected of them. The test was based on debatable propositions regarding current affairs issues in the public domain. A debatable issue will allow at least two possible sides for argument. Students should practice analysing, critiquing and evaluating different points of view about issues and arguments as preparation for this test.

The drag-and-drop questions in the test involve thinking about how statements become reasoned arguments. The idea of taking the different sides of an argument, and the notion that every argument can, in theory, be countered, is implicit in the critical thinking model of this test. Similarly, students should consider the elements of argument, such as elaboration, evidence, opposing argument and counterargument used for the line of reasoning question.

The Critical Thinking Test involves thinking about propositions and writing arguments and research questions. The skills examined can be learnt and practised. The highest-scoring responses dealt with the substance of issues, and the particular nature and direction of arguments.

Students produced significantly different amounts of text of different quality in responding to questions. Some students seemed to type with more speed and fluency than others, although this greater fluency did not always add to the quality of their responses.

Specific information

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

Student responses reproduced in this report have not been corrected for grammar, spelling or factual information.

The statistics in this report are subject to rounding that may result in a total more or less than 100 per cent.

Criteria for assessing arguments

In general terms, the marks for Questions 3 and 4 are allocated on the understanding of an issue, the comprehensiveness of the response, and persuasiveness of the reasoning and argument. The highest-scoring students showed clear and precise understanding, offered substantial and sophisticated responses, and presented convincingly reasoned views. They avoided assessing the quality of arguments and points of view on the basis of rhetoric and persuasive devices.

In assessing arguments there is a premium on explaining why a judgment is made, but it is recognised that such explanations can be difficult under test conditions. The reasoning and explanations of students are often implicit, but such implied reasoning may be inferred and rewarded.

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Question 1

Marks	0	1	2	3	Average
%	4	13	46	37	2.1

Row	For	Against
1	The first priority for humanity is the continuation of the species.	
2	*B. Parents make great sacrifices to have children and this benefits society as a whole.*	People have children for personal reasons and should not expect support from others to raise their children.
3	If we want more children, we should support those who accept the challenge of raising them.	*C. Raising a family is a matter of individual choice and responsibility.*
4	We should offer financial support to families so that children do not grow up in poverty.	
5	*A. The current birth rate is below the replacement rate of 2.1 children per woman.*	Migration is a good way of sustaining our current population and of assisting those who are less fortunate.

This drag-and-drop item required students to see how statements relate to each other in terms of a proposition, and how they can be best aligned in opposition to statements provided in the table. Students were asked to consider the proposition that society should offer financial support to people who are raising children, and then drag the three italicised statements into one of five empty cells in the table. The rows in the table have been numbered for ease of reference, but were not numbered in the test. The italicised statements were those to be dropped into the table.

A good approach to this task is to start by classifying statements as potentially For or Against arguments. In this test, statements to be dragged and dropped have to be envisaged and even effectively rephrased as arguments.

For this issue, B is the primary position of the For side. Row 2 Against is the most general statement for that case, and is a direct retort to statement B. Statement A is concerned with population and row 5 Against can be seen as a retort to statement A. Statement C can be seen as concerned with the societal interest in increasing population, and hence can be placed against row 3 For.

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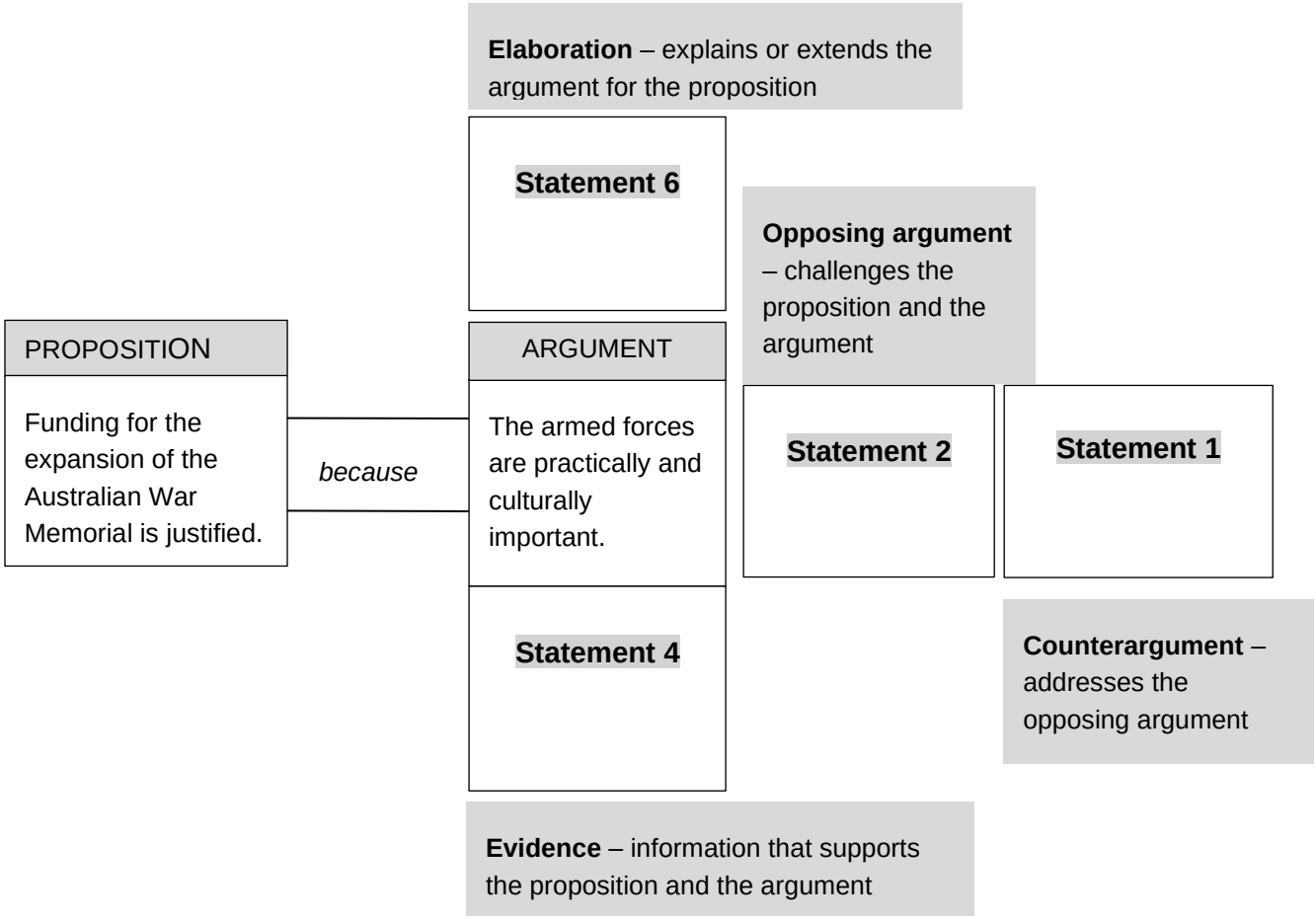
Question 2

Marks	0	1	2	3	4	Average
%	5	31	48	5	12	1.9



This question shows a diagram representing a line of reasoning. Students were given definitions of four terms, and were asked to drag four of six statements (A to F) into the appropriate space for each of those terms. Two of the statements did not appropriately fit any of the spaces.

The diagram represents a possible line of reasoning about funding for the expansion of the Australian War Memorial. Four of the six statements provided were to be dragged into the most appropriate empty cells labelled ‘Elaboration’, ‘Evidence’, ‘Opposing argument’ and ‘Counterargument’.

Statement 1 An expanded Australian War Memorial will be a meaningful acknowledgment of all who recently served.

Statement 2 Helping veterans damaged by war is more important than symbolic gestures.

Statement 3 War should be mourned rather than celebrated.

Statement 4 More than 100 000 Australians who died in military service are remembered at the Australian War Memorial.

Statement 5 More Australian soldiers died in World War I (61 566) than in World War II (39 655).

Statement 6 Military service involves sacrifice that must be recognised.

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The difference between an elaboration and a counterargument is the most difficult distinction in most lines of argument. In this case, Statement 6 is the elaboration as it suggests what 'culturally important' means in the given argument. Statement 4 is evidence about the importance of the argument. Statement 5 is another factual statement, but it is about the losses in different wars rather than the importance referred to in the argument and, hence, the war memorial. Statement 2 challenges the argument by suggesting that helping veterans is a more important use of limited resources, and Statement 1 claims that the expansion of the war memorial is a meaningful acknowledgment rather than a mere gesture, so it is the counterargument.

Statement 3 was a distractor that attracted some students as the elaboration or counterargument. It is not an elaboration or counterargument to the specific argument about the war memorial, rather it suggests an argument against memorials in general because they celebrate war.

Question 3

Marks	0	1	2	3	4	5	6	Average
%	4	11	25	30	18	10	3	2.9

The issue of controlling the ownership of news networks is complicated, and for this question students were given different arguments about the issue and asked to decide which argument is most important.

The task was a matter of deciding which of the statements is the most substantial or decisive. Higher scoring students offered reasoning for one argument. The following high-scoring response demonstrates sound reasoning supporting the conclusion.

Argument J is the most convincing as it appeals to the desire for citizens to be informed and educated, implying that in the absence of news media regulation, citizens will be poorly informed and their ability to receive a diverse range of truthful content will be compromised due to mass ownership. This argument is stronger than all others as it utilises a fundamental assumption of democracy; that citizens are entitled to determine their own perspective based on the complete knowledge of available information.

Question 4

Marks	0	1	2	3	4	5	6	Average
%	1	4	12	32	30	17	4	3.6

In this question, students were asked to consider arguments for and against the proposition that banning mobile phones in schools will improve student learning and wellbeing, and then to offer an argument for or against the proposition.

The following high-scoring response makes a convincing case about the value of mobile phones.

Banning mobile phones in school would not improve student learning and wellbeing.

Phones are extremely powerful devices that can be of great use in the classroom environment. Mobile phones can serve as a backup to when other devices fail, if a student's laptop is having technical issues, being able to rapidly switch to a mobile device would be highly helpful in seamlessly continuing to be able to follow along with the class. Some classes such as media and design classes can benefit from the mobile phone's ability to take pictures as ideas that may interest the student and teacher can be captured more easily. Mobile phones are also a great safety net in many ways, having a way to contact help on hand can be highly comforting knowledge to many people. For many people school can also be a highly stressful and negative environment, having a mobile phone as a form of escapism can be highly helpful. Mobile phones can also help prevent bullying as if students have a direct line of communication, then school resources could be applied more readily and rapidly to those who need it.

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Question 5

Marks	0	1	2	3	4	5	6	Average
%	2	10	24	31	21	10	2	3.0

In this question, students were asked to write a research question on one of the issues dealt with in Questions 1 to 4. This question gave students a choice about the issue they would write a question about, but all students were required to select from the same set of issues.

The students were assisted in this task by the material provided in previous questions about the issues.

The implied scale of this assessment goes from very impractical to impractical, through manageable to easily managed. The highest-scoring responses were clear, substantial and comprehensive. They envisaged manageable and productive questions and methods of answering them.

The quality of the question posed may depend on the ability to gather adequate data to answer it. It is possible for a student to score highly with a clearly or precisely phrased question that could be answered well, but if the student does not envisage a good way of answering the question they will not be able to score highly overall. On the other hand, a simple and obvious question could score highly when an appropriate way of answering it is envisaged.

Some questions and answers offered by students were within the scope of the Extended Investigation study (manageable in practice), but other questions and answers may have a more ambitious scope (say a study over a number of years) while remaining practical and realistic.

Students can make a range of comments in response to these questions. The responses are judged on their merits. Explanation and justification are to be rewarded in these answers, but the explanation and justification might be implied by specific comments on the issue. Formulaic comments with little grounding in the issue are marked accordingly.

In the following high-scoring response, the question is clear but general. The ways envisaged for answering the question are specific and comprehensive.

A good research question to investigate the banning of the use of mobile phones in schools could be: 'how does the banning of mobile phones in high schools affect student academic performance?' This would be a good research question as it has a clear and achievable scope of high school students, which is also easily accessed. Additionally, measuring student academic performance is easy as they already undertake school assessments and exams. Data could be collected about this topic through the use of surveys, this method allows a broad population to be reached and can provide both quantitative and qualitative data about students' perceptions and thoughts regarding the banning of phones. Surveys are also convenient to spread to a large audience and for the participants themselves thus encouraging participation and meaning high response rates. These could be collected from schools that have, and schools that have not, banned phones to allow for comparisons between the two. Also, the use of follow up focus groups could help to enrich the qualitative side of how students have performed. In terms of student performance, average assessment scores (if access is granted) or ATAR results (as these are publicly available) could be compared across schools with or without phone bans to see if there is any correlation. Another way to collect good data could be to use case studies on students that do and do not use their phones in school to compare their experiences and provide more detailed impacts on their academic records. These methods would allow for significant and reliable quantitative and qualitative data to be collected in order to answer the question.

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Questions 6 and 7

Marks 6	0	1	2	3	Average
%	5	37	43	15	1.7

Marks 7	0	1	2	3	Average
%	1	26	51	21	1.9

Questions 6 and 7 involved analysis and assessment of research questions, and envisaging how a research question might be answered. High-scoring responses focused on what would be involved in answering a particular question.

Various arguments were presented for the questions being the most manageable in practice. The questions about reducing the rate of staff turnover and reducing the use of plastic packaging in school lunches were the most popular choices for the most manageable question.

Most candidates chose Question C (What contributes to a happy life?) as obviously vague and general, and hence the least manageable in practice.

The following two high-scoring responses specifically and effectively explain the importance of population, scope and variables.

Response 1

Question B would be the most manageable. This question is the most manageable as it has a clearly determined population, scope and variables. The research question could be researched with minimal difficulty as a sample of Epwick Early Learning Centre staff could be quantitatively surveyed on if a raise in hourly wage or provision of 1 day of paid leave per month would make them more likely to continue working at this workplace. The quantitative results would be very easy to categorise and analysis for trends in the opinion n of respondents, which would then provide a definitive answer to the research question.

Response 2

Question C would be the least manageable in practice. This question does not provide a population, scope or potential variables. The research question does not provide information on the population it intends to investigate, as cultural and social differences between various groups would result in vastly different measurements and causes for happiness. Additionally, the question does not provide an objective measurement of happiness, making the investigation inherently subjective and limited in its application. The questions lack of predetermined variables that may produce happiness means that a qualitative investigation would have to be conducted, making categorization and analysis of results inefficient.

Questions 8 and 9

Marks 8	0	1	2	3	Average
%	5	37	45	14	1.7

Marks 9	0	1	2	3	Average
%	3	36	47	14	1.7

Some students saw no distinction between immigration, residency and citizenship. Assessors had to look past this confusion, but it did mean that some students were not focused on the issue.

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Students could make a range of comments in response to these questions, and the responses were judged on their merits. Explanation and justification are to be rewarded in these answers, but the explanation and justification might be implied by specific comments on the issue. Simply paraphrasing the comments is a limited response.

Some possible arguments are as follows.

For	Against
• There should be minimal qualifications for citizenship. • Integration into Australian society should be encouraged. • Some immigrants make no effort to participate in Australian society. • Being a citizen requires more than permission to live in a country. • Citizenship is a privilege that must be earned. • The right to vote given with citizenship should depend on having English language skills. • Australia must encourage social cohesion. • Citizenship requires knowledge of Australia and English.	• A test in English is a high barrier to some new Australians. • Some older migrants cannot master English. • Testing knowledge about Australia is unimportant. • Australia should be generous and welcoming rather than nationalistic. • New Australians should be allowed to deal with Australian society as they wish. • Australia should accept differences rather than insist on conformity. • Integration into Australian society should be a natural rather than a forced process. • The test discriminates against those from non-English speaking backgrounds.

In some respects, the case for the citizenship test in English was more difficult to make, but the scores awarded for each were almost the same.

The following high-scoring response gives consideration to both sides of the issue, while concluding that the test is justified.

Applicants for Australian citizenship should have to pass a test of their knowledge about Australia conducted in English to ensure their own safety and assimilation into Australia. Those immigrating to Australia need to understand the culture and laws of Australia in order to protect those already here and the prospective citizens. If they immigrate without knowledge of Australia they could put themselves and others in danger by not understanding laws or safety instructions that are written in English. This could be potentially dangerous to both those living in Australia whose rights could be infringed and those entering the country who may harm themselves or others. Additionally, an understanding of Australian culture will help those immigrating to 'fit-in' and feel more accepted and belonging within the community. This is beneficial to both those who move here – for their mental wellbeing – and those who live here already – for the continued culture of community and comradeship. If those applying for immigration did not have to prove any knowledge of Australia they may end up isolated when they move which could be detrimental to their mental and physical health and would also negatively impact the Australian society as they would not be actively contributing. Applicants for Australian citizenship should have to pass a test of their knowledge about Australia conducted in English as it would benefit all involved (both the current community and the prospective citizens). This is the strongest argument for the proposition as it pertains directly to the statement and addresses the most benefit to the most people.

Question 10

Marks	0	1	2	3	Average
%	7	40	40	14	1.6

This task was presented as part of a line of reasoning, and students were asked to provide an opposing argument to the proposition and argument that the wearing of bicycle helmets should not be compulsory. The term 'opposing argument' was used with the same meaning as in Question 2: an argument that 'challenges the proposition and the argument', rather than either of these alone, or offers another and different argument.

This task of providing a nominated argument is more tightly constrained than making an argument for or against, as in Questions 8 and 9. The task involved a decision about whether an argument directly challenges the proposition and argument, rather than being a mere contradiction (such as 'bicycle helmets have no impact on bicycle riding') or a different argument (such as 'bicycle helmets are not required in many countries').

The highest-scoring responses offered sound argument, precisely expressed, which dealt with both the proposition and the argument. Some of the possible arguments are as follows.

- Helmets can encourage cycling by making it less dangerous.
- Cycling is discouraged by other factors, such as lack of bike tracks and careless car drivers.
- Other measures would encourage cycling more.
- Dangerous cycling should not be encouraged.
- Many countries do not require helmets.

The scoring of these arguments would differ on the basis of the clarity of the presentation and the explanation.

The following high-scoring response opposes rather than contradicts the argument and proposition.

Compulsory wearing of a bicycle helmet saves lives, which inherently encourages cycling. By contrast, eliminating compulsory wearing of wearing bicycle helmets will increase the fatality rate, thereby discouraging cycling due to the dangers of sustaining traumatic head injuries or death.

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