2024 VCE Extended Investigation Critical Thinking Test external assessment report

General comments

The Extended Investigation Critical Thinking Test is intended to assess student ability to engage in critical thinking within a set timeframe. The 2024 test was the last to be assessed under the current study design.

The 10 questions in this test were designed to test a variety of aspects of critical thinking. Students should have used the allocated reading time to establish what was required for each question and contemplate their responses.

In 2024 many student responses demonstrated an awareness of the requirements of each question and an understanding of what was required to score at a reasonable level throughout the test. Responses to Questions 3–10 took a variety of approaches, and confirmed that there are numerous ways in which critical thinking can be successfully demonstrated. Paramount to student success in this test is the quality of reasoning, which can be demonstrated explicitly or by implication. Consequently, most of the test questions are in short-answer form, to allow such reason to be evaluated. A considerable number of student responses are contained in this report and the variety of approaches taken illustrates that success can be achieved in numerous ways.

The test is designed to allow all students a range of opportunities to demonstrate the quality of their thinking, their capacity for sound reasoning and the quality of their arguments; it is always the demonstration of clear and precise thinking that is rewarded, not the quality of writing or, as the test is completed online, the accuracy of keyboard skills.

A clearly observable trend in 2024 was a move towards formulaic responses when research methods were considered. Some responses incorporated generic reasoning for selecting research methods without giving sufficient thought to the specific scenario offered within each question. Responses that explain and justify a viewpoint will score more highly than those that merely offer generalised and formulaic comments. However, it was pleasing to see that most responses in 2024 avoided engaging in linguistic analysis and focused predominantly on the quality of arguments.

All issues presented in the test allow for at least two possible sides for argument – this is made explicit in several questions. Therefore, it is recommended that students preparing for this test find contemporary issues to discuss and evaluate from a variety of perspectives and viewpoints. Students can often think more logically and less emotively when arguing against their personal beliefs; therefore, such exercises could prove helpful in preparing for the challenges of this test.

Specific information

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

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

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

Criteria for assessment

Criteria for assessing arguments

The marks for Questions 3, 4, 5, 9 and 10 were allocated on the understanding of an issue, the comprehensiveness of the response, and the quality of the reasoning and argument presented.

In assessing arguments, there is always a premium on those that explain why a judgment is made, but it is acknowledged that making such explanations can be difficult, particularly under test conditions. If the arguments presented in responses were logical and coherent, such reasoning was rewarded.

Criteria for assessing research-related responses

Questions 6, 7 and 8 provided opportunities for students to demonstrate their knowledge of the qualities of good research questions and the considerations used in a critique of such questions. Many students will have had similar concerns during the formulation and evolution of their own Extended Investigation research question, and it is important for them to recognise the value of critical thinking as it is applied in research.

Question 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Mark | 0 | 1 | 2 | 3 | Average |
| % | 15 | 36 | 40 | 9 | 1.4 |

|  |  |
| --- | --- |
| For | Against |
| Young people have demonstrated how much they care about issues that affect them, yet they cannot vote. | Social media is a more effective way to influence governments. |
|  | Younger teenagers are mostly ignorant about politics. |
| Social media has dramatically raised the level of political involvement among younger people. |  |
|  | For practical reasons, there has to be a limit on the number of voters in the electoral system. |
| Voting means helping to decide what really matters. | Many young teenagers act impulsively and make bad choices. |
| We all have good access to reliable information these days.  | Younger voters would be vulnerable to the claims of dishonest politicians. |

This drag-and-drop question required students to see how statements relate to each other in terms of a proposition, and how three given statements could be best aligned in opposition to statements provided in the For/Against table displayed above. Students were asked to consider the issue of giving the vote to Australians aged 16 and 17 years, then drag each of three related statements into one of six empty cells in the table. When evaluating each statement, students needed to identify whether it supported or opposed the proposition – in this case that younger Australians should have the vote – and then try to locate a matching argument in the table – essentially one that considered the same central idea but adopted an opposed position. One mark was awarded for a statement that was correctly located within the table; no marks were given for an incorrect placement, even when on the correct side of the argument.

The grey-shaded boxes in the table indicate where the statements needed to be placed for marks to be awarded. Most responses demonstrated that students were able to understand the oppositional viewpoints offered in Lines 5 and 6 by correctly placing Statements 1 and 2 in these lines. A number were likely misled by the use of the term ‘social media’ in Statement 3, mistakenly placing this statement as a rebut to the For statement in Line 3. As the proposition was about the issue of allowing young people the vote, however, Statement 3 was a much better fit in Line 1, which was concerned with the issue of how young people lack or could gain influence in relation to issues they cared about. This illustrates that the appearance of the same idea or term in two statements does not necessarily mean that the statements are directly related to the same topic.

The correct placement of all three statements is not a simple task. Students should be aware that the point of opposition may not be obvious. They should always consider the implications or possible consequences of each statement as carefully as possible. Many responses demonstrated that students were able to see the opposition between decisions being important and a tendency to make bad choices, and between having access to information and being vulnerable to dishonest claims. There is no opposition between the idea of social media stimulating an interest in politics and social media being an effective way of influencing governments.

Question 2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mark | 0 | 1 | 2 | 3 | 4 | Average |
| % | 10 | 17 | 9 | 51 | 13 | 2.4 |

|  |  |
| --- | --- |
| Elaboration | Our multicultural population does not identify with the current flag. |
| Evidence | Separate flags were introduced by Aboriginal and Torres Strait Islander peoples in 1970 and 1992. |
| Opposing argument | Australians have fought under this flag in wartime, so it cannot be discarded. |
| Counterargument | National symbols should be able to reflect social change. |

The following statements did not fit in to the line of reasoning:

* Statement 1 – The British symbol on the current flag is part of our history.
* Statement 6 – Few people see any difference between the Australian flag and the flag of New Zealand.

This question showed a diagram representing a line of reasoning about whether Australia should have a new national flag. Students were given definitions of four terms – ‘elaboration’, ‘evidence’, ‘opposing argument’ and ‘counterargument’ – and were asked to drag four of six given statements into the appropriate space for each of those terms. Two of the statements – Statements 1 and 6 – did not appropriately fit any of the spaces. One mark was awarded for each correct response.

Most responses correctly identified which elements of argument the given statements represented. Similarly, the majority correctly excluded a superfluous statement about the similarity between the Australian and New Zealand flags; this statement was irrelevant, as the key issue was identification, not distinctiveness. A further superfluous statement about British influence on the current flag caused greater confusion in the responses; yet careful reading of the proposition and argument should have allowed students to see that, even though this statement is true, it is not necessarily a reason for opposing the proposition.

Many responses showed that students recognised the evidence – from the flags representing Aboriginal and Torres Strait Islander peoples – gave factual information that supported the proposition, and were able to identify that the issue of multiculturism neatly elaborated and gave complexity to the argument. This was commendable; the difference between an elaboration and a counterargument or evidence is often the most difficult distinction to be made, as these elements are always supportive of the proposition and argument. In this instance, the statement ‘Australians have fought under this flag in wartime, so it cannot be discarded’ challenged both the proposition and the argument, thus making it the opposing argument – as distinct from the counterargument, which in referring to social change directly focused on the main issue of whether or not the flag should be changed.

Question 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Mark  | 0 | 1 | 2 | 3 | Average |
| % | 8 | 28 | 41 | 22 | 1.8 |

Question 3 had similarities with Question 2. It too focused on the relationship between a proposition and an argument. In this instance, however, the proposition and argument were given, and students were required to construct an opposing argument that needed to challenge both the proposition and the argument.

Students were asked to provide an opposing argument to the contention that, if forced to choose, we should always value loyalty above honesty, because honesty can be damaging to friendships and family relationships. Students needed to explain – explicitly or within their argument – how their opposing argument was effective in addressing both the proposition and the argument. They needed to focus on the success of the reasoning in challenging the claim that ‘loyalty is preferable to honesty because it is less likely to be destructive’, rather than commenting on their own use of persuasive devices.

Responses that merely contradicted the proposition or the argument without considering both aspects could not achieve full marks. Similarly, responses that simply offered an opposing statement without developing it in a meaningful way were unlikely to receive more than one mark. However, many responses successfully addressed both the proposition and the argument. A range of opposing arguments were presented, and each one was assessed on the clarity and precision of their presentation. Responses were also assessed on any reasoning used in explaining how their opposing argument was effective.

The following is an example of a high-scoring response, which had no explicit explanation other than the position presented. The response explicitly addressed both the proposition and the argument while implicitly demonstrating the effectiveness of the student’s argument. The response successfully engaged in a constructive discussion of both terms, by challenging both the proposition and the argument stated in the question.

If forced to choose between honesty and loyalty, honesty should be valued above loyalty. While many believe honesty has the ability to be damaging to friendships and family relationships, dishonesty can be just as if not even more damaging to relationships as it involves the delobrete hiding of information. Regardless of the intent behind dishonesty, it can hide vital information that could potentially be helpful. Honesty focuses on the action of being completely truthful and with access to all information provided without including the intrests of anyone involved it can serve to be more benefical rather than harmful. Loyalty, on the other hand, only refers to the positive intent people may have and the obligations they may feel towards something or someone. By focusing on the intent rather than the actions, it can lead to damaging actions that while were made with the best intrest can lead to the destruction of relationships with family and friends. Unlike honesty, loyalty relies on people's personal intrests and thus whether the action is taken or not depends on people's own judgements and decisions which may not always be correct. This contrasts honesty where the same action will be taken, that is to tell the truth, thus is more dependable and less likely to lead to bad actions and less likely to damage friendships and family relations.

A different approach was taken in the following high-scoring response, which provided a far more explicit justification for the position it expressed. Both the original proposition and argument were challenged successfully – in this instance, by the incorporation of a few specific examples that managed to make concrete the abstract terms employed. In this way, the response clearly justified the student’s own position.

When they say 'Honesty is the best policy', they are, in fact, being honest. While a white lie here and there to spare someone's feelings is unlikely to cause trouble, the more often it occurs, the harder it is to keep up with. One may tell a friend that they're a good singer because they’re insecure about their voice, when in reality they are terrible at singing. If that friend belives them, who's to stop them from pursuing a career in music and falling flat on their face due to their misguided perception of themselves. While honesty can be damaging to friendships and familial relationships in the short term, lying directly or lying by ommision will cause much larger problems down the line. Lies almost always are discovered, and when they are, people are hurt that they've been lied to, and this fact can lead to a decline of Trust in any relationship. While people may appreciate loyalty in sticking by their side and telling them what they want to hear, it is not true loyalty, it is selfish. One spares their friends or family's feelings only because they don't want to be the one to tell them the uncomfortable truth and risk losing that relationship. If one does tell the uncomfortable truth to an associate, it's very possible that they will be unhappy with them in the short-term, however any reasonable person will come to the conclusion that they should appreciate your honesty. This argument directly opposes the proposition by asserting that loyalty can oftentimes become selfish as one may wish to not lose or damage a relationship to their own gain. This argument implies that honesty and loyalty can be one in the same in certain situations, but when they are not, 'honesty is the best policy'. This argument directly opposes the argument extending from the propposition by asserting that yes, while honesty can be damaging to intrapersonal relationships, lying nearly always leads to a far worse outcome.

Question 4

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mark  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | Average |
| % | 2 | 11 | 23 | 25 | 21 | 13 | 5 | 3.1 |

Question 4 presented students with a For/Against table with 10 individual statements randomly ordered. The statements related to the proposition that Australia should gradually phase out the mining and exportation of marine sand. Each statement was labelled ‘A’ through to ‘J’, and students were asked to explain which of the 10 statements was most convincing and why. Responses should focus on the statement’s ideas and reasoning, not its rhetorical appeal to others or its use of persuasive language.

A successful response could have been made with reference to any one of the individual arguments provided – there was no ‘correct’ answer, although some statements may have been harder to defend than others. It is not expected, assumed or necessary for a student to have any prior knowledge of the topic under discussion; responses that scored highly demonstrated a clear understanding of the issue and, using one statement as a starting point, were able to draw on a range of substantial ideas and coherent reasoning in their explanations to produce a comprehensive evaluative response. Students were able to take a range of different approaches in developing responses, which were assessed on the range and substance of the ideas used in explanation or support, and the quality and coherence of reasoning used in explaining the strengths of the chosen argument.

In the following student responses, neither approach is ‘better’ than the other. Credit is always given to responses that are able to justify their selection of argument in a way that is plausible, coherent and logical.

Such skills can be seen in the following high-scoring example. The response primarily focused on one statement – Statement B: ‘Limiting supply will encourage the use of more sustainable building materials like wood, metal and stone’ – and successfully analysed it in a comprehensive manner, briefly incorporating other arguments for the purposes of rebuttal and elaboration:

Argument B is most convincing. This is because it gives good reasoning as to why we should be phasing out the mining and export of marine sand, and supports a gradual phasing out process, not an immediate cease of mining, which respectfully acknowledges the industry, giving time to find new, renewable materials, and ensuring time to find work and new employment for workers that would be putout of a job.

This argument also acknowledges the new needs of todays society, and supports sustainability goals, ensuring that we leave the generation after us with enough resources, if not more, to continue living functionally on our planet. By using more eco-friendly materials, we not only contribute to sustainability goals, as mentioned above, but also support new jobs and industries for potential current marine sand mining employees to move into, through increasing supply of wood, metal or stone, which would also then boost our economy more through the increased support of these industries.

While the arguments for against the proposition do have some good points, they lack reasoning and have obviously not been completely thought out. Argument G states that the decline may lead to shortages that may have effects on other countries economies. It is important to note though that the proposition explicitly states that the phasing out would be gradual, so no drastic steps would have to be taken in a short amount of time without every outcome being considered. Argument F also states that concrete is a better and safer material to use in construction, but the fact is that we didn't always have concrete, and heritage listed buildings all around the world, that are still standing today, were originally built with materials such as wood and stone, which are the materials proposed to be used in argument B while mining is being phased out.

We don't have to stop the mining completely, we just have to gradually phase it out at a rate that it can naturally replenish itself, so that the generations after us will be able to use it at a rate that future generations will still have access to it.

The following high-scoring response took a slightly different approach. It widened the discussion to consider other arguments more thoroughly, but always in a way that supported the central contention that the strongest argument is Statement D: ‘Concrete construction is ultimately not sustainable, and a slow-down would stimulate scientific efforts to develop new materials’.

I find argument D to be the most convincing as it addresses the sustainability of current building materials, and looks at longevity of the issue. As marine sand is being used at a must faster rate than it is replaced, it is ultimately non-renewable and therefore unsustainable for humans to continue relying on it. Especially with the impact on the natural marine environment, it is in our best interest to find more sustainable building materials such as those so that we are not in a shortage of building supplies, but also so that we can make more sustainable choices for our buildings and infrastructure. Especially with a growing population, infrasture materials will always be needed to build but also to renovate and restore existing property, and for this, the mining and export of marine sand, is simply unsustainable and not faesible long-term. As such, argument D considers the environmental and practical benefits of gradually phasing out the mining and export of marine sand, as it gives us time to find new alternatives through the 'gradual' removal, and will ultimately benefit us in the future.

Comparing this to the other arguments, argument B presents a very similar issue, but I am not convinced due to the statement of wood, metal and stone. Even though these are more sustainable than mining marine sand, increased reliance on wood would lead to more deforestation, whereas metal and stone still forces us to create large mines which damage natural ecosystems. As such, it focusses on the practical benefits and fails to consider the adverse environmental impacts. Argument C and A adversely only consider the environmental impacts of mining and export of marine sand, and fails to consider a long-term solution to the need for more building materials. E and G consider more economical standpoints, which although is reasonable, does not consider the issues that prompt this topic, which is the unsustainability of this process as raised by D. Argument J adversely is defeated as the needs of the natural environment is more important than our standing as a trading partner. Australia contributes to exports in a variety of ways, and as such its unlikely that our reputation would be damaged as a result of an overtime phase-out.

Even if what is presented in I and G is true, it is not Australia's responsibility to consider the actions of other countries, as we need to consider the sustainability of the practice and its influence on the environment first, and due to the 'gradual' phase out, it is not likely that the economies would be impacted too much due to the time given to adjust, and find better alternatives that Australia can help to create. As such, argument D is still the most convincing as unlike the other arguments, it considers the sustainability of the issue and its practicality going into the future, while also paying a Mention to the issues presented with the current scheme, implying its negative impact on the environment.

Question 5

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mark  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | Average |
| % | 1 | 6 | 16 | 23 | 27 | 16 | 11 | 3.6 |

Similar to Question 4, Question 5 presented students with 10 labelled arguments within a For/Against table. However, the task in Question 5 was significantly different from that for Question 4. Several responses to Question 5 appeared to respond to the task in Question 4 rather than dealing with the task related to this question.

Students were asked to consider arguments for and against the proposition that there should be a national law to prevent the paid employment of children under the age of 15 years. Having considered the arguments within the table, they were asked to offer their own position on the issue. This was the essential aspect of this question – it was important to hear the voice of the student clearly articulate and justify a position on a topic, drawing on the information and viewpoints provided as appropriate.

Some students were able to draw on their own experience of part-time work to illustrate their view; others incorporated many of the ideas presented to them in the table within their own arguments. This question was not a test of general knowledge; either approach was perfectly valid provided that the student could present a position that showed an understanding of the issue, with supporting ideas that were reasoned in a convincing and coherent way.

Some responses merely summarised the presented arguments, keeping them in the same order as they appeared in the For/Against table, without creating an authentic position or demonstrating an understanding of the issue. The challenge of this question was for students to clearly identify and support a position on the issue in a plausible and coherent way.

The following very thorough high-scoring response successfully showed a precise understanding of the issue, and provided plenty of considered justification for the position taken.

Having considered the arguments, I am of the opinion that there should be national laws to prevent the paid employment of children under the age of 15 years. The teenage years of a human's life are seen as a time for them to grow, develop, learn, and experience new things in life. In addition to this, this time period can also be stressful for humans as they have various factors that are stress-inducing including school, friendships, future decision, etc. The added pressure of working and earning money would therefore not be benefecial for them as being stressed can lead to serious health issues such as depression and anxiety and can also have negative impacts on their physical health. Various celebrities who started working as young adults open up about their negative experiences which include incidents of being overworked, sexualised, exposed to stressful environments, and a lack of time for personal enjoyment. As a result, they regret not being given the oppurtunity to enjoy their teenage years and missing out on important experiences that they would have had the chance to experience in the instance they were not working as children. In some instances, some celebrities have reported developing mental health issues. For example, Zayn Malik who was part of the British boyband one Direction reported struggling with mental health issues whilst being in the band but being forced to perform at live shows regardless of his problems. This lead to his mental health to deteriorate further. Moreover, female celebrities who started working as children have reported feeling objectified by the media after being analysed from a sexual lens by audience members and the media. This can also have negative impacts on their mental health and lead to serious issues like depression and eating disorder. This provides us with real-life examples of what exposing underage children to working environments can lead to.

While it may be argued that working and earning money as young adults gives them the sense of pride, independence, and responsibility, it is important to remember that young adults can gain these skills and experiences in a non-work environment as well. For example, someone keen on getting a sense of these feelings can immerse themselves within the leadership opportunities schools offer. This would not only keep them safe as schools have students' best interests and safety at heart, but it would also allow them to gain skills that are crucial for them in the work experience like responsibilty and time management, which also getting a sense of pride as they will be representing their school, independence because they will be put in positions where they will have to make decisions on their own, and responsibilty as they will be in charge of taking care of various events. Furthermore, this would not distract them from their studies which will equip them with the knowledge they need to get the perfect job for themselves when the time arrives.

Therefore, by enforcing a national law to prevent the paid employment of children under the age of 15 years, the government will be able to keep children safe, allow them to experience life and different situations, and help them stay on track in school.

The following high-scoring response offered an opposing position and was expressed in a very different way. However, the position was clearly stated in a way that was rational and well supported.

I am strongly against this proposition. Preventing paid employment of children under 15 years of age will have such little benefit, that it will be almost completely insignificant. There are vast multitudes of situations which would require children of this age bracket to work, like a single parent household with a seriously ill parent, or financial struggles within the household that can be assisted by another member of the family working. Preventing these children from doing so could end up being a larger problem than what is already happening to children under 15 in the workplace.

While I agree that these teens aren't fully matured, working is an inevitable part of life, and allowing them to enter the workplace at an earlier stage of life gives them the opportunity to navigate different jobs early on, giving them crucial skills to develop their personal discernment. Argument C raises a point that there is no guarantee that these young workers will be given the proper safety training for the job. If that is the case, then the next concern should be ensuring that it is given to them, rather than taking work opportunities away from them entirely. Argument B claims that young workers don't have the necessary skills to cope with workplace harrassment. This argument is flawed, because it is simply because teenagers do not have any opportunities to develop the neccessary skills they need. What better, more productive way of giving them the opportunity to develop their coping skills is there than letting them test the waters themselves? If there really is so much concern about young people entering the workforce, make it a priority to make work a safe environment for all employees. Some teenagers actually want to be working, so stripping that opportunity away from all of them is unfair. If a teenager feels like they are not equipped enough or prepared enough to start working, then they don't have to work. Simple as that.

Question 6

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mark  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | Average |
| % | 1 | 8 | 29 | 31 | 21 | 8 | 2 | 2.9 |

For Question 6, students were required to choose one of the issues that had been discussed in Questions 1–4. They were asked to devise a good research question related to their chosen issue and explain how good data might be collected to address it. Responses to this question were assessed on the quality of the question that the students proposed, the plausibility of their proposed data collection methods and, crucially, the connection between these methods and the question proposed. There was no division of marks between the proposed research question and the methods proposed to answer it; the assessment took both elements of the response into consideration.

Students were encouraged to:

* consider the clarity and focus of their question as well as the potential significance of it
* evaluate who the potential stakeholders may be
* link the wording of their proposed question to methods that would lead to a likely research conclusion
* not infringe any ethical standards.

Consequently, many successful answers contained manageable and productive questions and proposed appropriate and suitable methods for answering them. However, some responses merely suggested generic methods without considering their suitability within the context of the question proposed.

Some responses gave questions and answers that were devised within the scope of the Extended Investigation. Other responses proposed methods that were set within a broader academic setting. Either approach was acceptable, but if students identified the situation for which their research question was best suited, this helped in justifying, and possibly explaining, their choice of methods.

In the following two high-scoring examples, the methods suggested are manageable and appropriate to the question proposed. The first response considered the methods very carefully and demonstrated significant effort had been made to align these methods to the needs of the proposed question.

A good research question to explore issue A is ‘To what extent does the school community at X High School support allowing people of 16 and 17 years to vote, on a non-compulsory basis?’

Data for this research question can be collected through a multi-method approach involving both surveys and interviews. Surveys can be conducted to gain quantitative data from a large population of the school community at X High School in order to gauge a general and overarching view of the opinions of the school community on allowing voting for 16 and 17 year olds. The survey can include questions using likert scales such as ‘On this scale from 1 to 5, how beneficial do you think allowing people of 16 and 17 years to vote, on a non- compulsory basis will be with 1 being not at all beneficial and 5 being extremely beneficial?’ Or ‘On this scale from 1 to 5, how ready do you think people of 16 and 17 years are to vote will be with 1 being not at all ready and 5 being extremely ready?’ QR codes for the survey can be displayed in public areas around X High School such as the canteen, bathrooms, front gates and school bulletin boards as well as being sent out in an email to the school community in order to maximise participation. After data has been collected from the survey process, qualitative data can be obtained from interviews in order to gain a more specific understanding about the views of members about the school community around this issue of adolescent voting. Interview questions may include ‘Why do you have the view on allowing people of 16 and 17 years to vote that you do?’ or ‘What do you think are the major consequences that will come from allowing people of 16 and 17 years to vote?’ Random stratified sampling will be used to select the sample to interview. In this process, groups from the school community such as year 7s, 8s, 9s, 10s, 11s and 12s as well as teachers, other school staff and guardiens of students will be identified and then the same number of individuals from each group will be randomly selected for the interview process. This allows interview responses from all groups in the school community equally which will enable more accurate data about the views of the school community as a whole. Thematic analysis of the interview responses can then be conducted in order to obtain a more clear view of the opinions reflected by the school community.

Data for this question will be collected in an ethical manner with informed consent being collected before engagement in the survey or interview process and data remaining anonymous which will also encourage participants to be open and honest, allowing the data to be more accurate. Researcher bias will be avoided through asking neutral questions in the interview and survey.

Practical issues for the data collection are minimal with a school community being an accessible population for an EI student to research and surveys and interviews being able to be conducted on line to avoid interfering too much with the busy lives of school community members.

Answering this research question will be valuable in informing debate on topic A as it will provide information about the views of the next voters that would directly be impacted by this change in policy as well as the views of those who work most closely with them being school staff and guardiens.

The second high-scoring example chose a different topic and considered the ways in which research could be conducted, proposing methods appropriate to the proposed question. The response also demonstrated a mindfulness of the potential significance of the research; this awareness underlaid the attempts to collect good data.

A good research question to inform debate about replacing the current Australian national flag is: In the view of various Indigenous elders in Victoria area, how does Australia's continued usage of the current Australian national flag impact current reconciliation efforts?

In order to collect data for this question, a mixed-methods approach should be adopted. First, an initial literature review could be conducted on past research papers relating to the impact of the lingering effects of colonisation on Indigenous peoples wellbeing and reconciliation efforts made by the Australian government. Both quantitive and qualitative data could be collected here – statistical and numerical data could be derived from reports on Indigenous wellbeing, and qualitative data could be taken from specific recounts of the impact of British customs introduced by colonisation on reconciliation from past elders and Indigenous peoples. Data collected here would inform the creating of questions asked in the next stage of the method, interviews with Indigenous elders in Victoria. The sample frame would be easy to access, as elders in the area are often linked to schools, charities, and other groups and are easily able to be contacted, particularly to discuss relevant Indigenous issues. In addition, conducting interviews with questions such as 'what is your relationship to the current Australian national flag?' and 'how does this flag undermine current reconciliation efforts?' will both collect rich and deep data, as well as respectfully consider the Indigenous traditions of oral storytelling. Moreover, it is also more ethical to contact elders rather than interview a number of different Indigenous people, who are often vulnerable and could be negatively impacted by the questions asked. Elders are elected by their people to represent their views - it is respectfull to gather data from elders, and these are people who readily take on their role prepared to have their voices heard on difficult issues. It is also more feasible to have a contained and specific geographical scope - however, researchers could expand to include other communities and Elders in order to collect geographically diverse responses. This question is substantial and significant, especially considering the recent voice to Parliament vote that caused uproar around Australia and the annually resurfacing debate of when we should hold 'Australia Day'. Clearly, Australians have an interest in Indigenous affairs and the lingering impacts of British colonisation on the lack of Indigenous voices heard in Australia's political stratosphere. The data collected from the question would provide clear insights into the Indigenous perspective surrounding the issue of changing or keeping Australia's flag - a perspective commonly overlooked in many other political conversations. The question and method combined will provide data that will give an insight into the mental and emotional impacts of keeping the flag and how it can impact Australia's reconciliation efforts.

Question 7

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Mark | 0 | 1 | 2 | 3 | Average |
| % | 9 | 41 | 40 | 10 | 1.5 |

Question 8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Mark | 0 | 1 | 2 | 3 | Average |
| % | 7 | 34 | 38 | 21 | 1.7 |

Questions 7 and 8 involved analysis and assessment of options selected from the same stimulus. Students were presented with five research questions and were asked to consider them in terms of their practical manageability. Students needed to choose one research question from Question 7 and one research question from Question 8.

In a way similar to Question 6, students needed to consider:

* the clarity and focus of the question
* the ways in which appropriate research methods could be employed
* the likelihood of obtaining an answer through such research
* potential ethical issues
* crucial practical issues, such as resourcing.

Student responses needed to focus on the practical manageability of each research question; however, in assessing responses, it was acknowledged that practical and methodological issues could stem from weaknesses in the formulation of the research question itself.

Of the five research questions available for consideration in each of Question 7 and Question 8, there was no ‘correct’ choice. High-scoring responses could have been developed for any of the options provided. Marks were awarded to responses that clearly identified and explained the limitations or strengths within the selected research questions. Responses were not assessed on their choice of question but on the reasoning demonstrated for that choice.

In their responses, students were encouraged to focus on the specific issues likely to be directly relevant to their chosen research questions and to avoid a generic response. Responses could evaluate manageability within the context of the Extended Investigation study, assuming limited resources, or judge it in the broader context of a professionally conducted research project with suitable resources. It is helpful if students communicate the context of their evaluation, as this contributes to an understanding of their reasoning.

Different responses could identify the same question as the most and least manageable and each score highly. The following responses clearly explained the practical issues within the selected question and elaborated upon them by, in Question 7, pointing out the ways in which the question could be managed successfully and, in Question 8, highlighting its severe limitations due to inherent practical difficulties.

The following is an example of a high-scoring response to Question 7. The chosen question – ‘For cyclists riding through Lost Dingo Bend Park during magpie nesting season, is the use of a spiked helmet the best way to prevent magpie attacks?’ – was evaluated in terms of how it would be the most manageable.

E. would be the most manageable in practice. The research question sets up a very specific premise in which only cyclists which commonly take Lost Dingo Bend Park throughout magpie season would be approached, this is manageable as it would be easy to find cyclists which take that route simply by observing it during magpie season, especially if you were to live around the area. This research can also be approached in numerous ways, a survey can be done on the cyclists various methods of mitigating magpie attacks and the frequency of the attacks, a focus group can be used in which various types of helmets are observed for their magpie scaring quality or an observation can be done on the amount of magpie attacks on cyclists with spiked helmets verse those without. Though this research comes with a few ethical dilemmas, as the magpies cannot be hurt during the course of this research, the people's safety themselves must be taken into consideration, this includes those conducting the research and those apart of it as well as considering if this research would lead to faulty magpie mitigating practices being spread or practises which hurt magpie populations, there are still common and inexpensive methods to avoid these which can be undertaken.

In Question 8, the same research question was chosen and evaluated in the following high-scoring response, which identified the qualities that made it the least manageable.

The least manageable would be question E. It is unethical to conduct this research, as the only way to gauge substantial insight on the question would be to conduct an experiment in which cyclists ride through the park with different equipment including the spiked helmet and test the difference in magpie attacks - which could cause significant bodily harm. Because different helmet and safety equipment types will be tested, there is potential that some of them are not functional, meaning the magpies could possibly attack the participants and cause long-term bodily harm, such as damage to eyes. Furthermore, to conduct valid research, a control condition will have to be implemented, which could possibly mean no helmet at all, which could have significant risks if the cyclist is to fall off the bike, or if they are to be attacked by a magpie. While some safety equipment can be implemented to prevent significant harm from attacks, it is possible that this could be an extraneous variable that alters the results, because the magpies attacking/not attacking could be wrongfully attributed to spiked helmets/other helmet gear, when it is possible that other safety equipment could be causing certain outcomes. Additionally, because of the possible physical risks, not only is it unethical, but participants are unlikely to want to participate in the study due to not wanting to get in to harm.

Question 9

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Mark | 0 | 1 | 2 | 3 | Average |
| % | 6 | 31 | 45 | 18 | 1.8 |

Question 10

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Mark | 0 | 1 | 2 | 3 | Average |
| % | 11 | 32 | 39 | 18 | 1.6 |

In Question 9, students were asked to produce a strong argument, with justification, *for* the proposition that participation in team sports should be compulsory for all Victorian school children in addition to scheduled physical activity at school. For Question 10, they were asked to consider the same topic but to present an equally strong argument *against* it. When considering both sides of an issue, students should understand that their arguments will always be strengthened by the careful use of elaboration and evidence, as well as coherent reasoning. Being required to argue both sides helps establish both a detachment from one’s own views and a focus on the quality of the reasons that can be used to support each viewpoint.

Both Questions 9 and 10 allowed students more freedom than some earlier questions in presenting their arguments and neither had the same explicit scaffolding. Good responses to either side of this argument were possible without accurate use of real-world evidence, and errors of factual detail in otherwise plausible responses were not penalised. As stated under General Comments at the start of this report, it is always the quality of reasoning and the logical cohesion of an argument that is rewarded.

The instructions for Questions 9 and 10 also asked students to explain why they believed they had presented a strong argument. Some students took this as an opportunity to engage in meta-analysis, as in the following high-scoring response to Question 9:

Participation in team sports provides children with additional valuable life skills, like long-term teamwork to reach a set goal, that cannot be taught in scheduled physical activity at school.

This argument is a strong point for the proposition due to it's acknowledgement of beneficiance in direct comparison to current scheduled physical activity. The noting that team sports adds another layer of invaluable knowledge, such as long term team building, cooperation, and communication in order to reach a shared objective, like winning a local championship, directly places it in contention to what limited social benefits scheduled physical activity can offer, emphasising it's importance as an additional activity. It's acknowledgement of concerns other than just health and fitness, but rather social skills and important life skills like communication and cooperation further elevate the argument, proving to be beneficial to multiple aspects of childhood development, and thus 'ticking several boxes' of activities and settings children need to engage in to thrive. By extending the scope of the original proposition in this way, it both demonstrates the far reaching benefits of team sport, thus appealing to multiple potential parental concerns for their child, as well as the opportunities that Team sports provides in direct opposition to those that physical sport provide.

Conversely, in the following high-scoring response to Question 10, the analytical part of the response is entirely implicit. This response scored well by presenting an argument that clearly understood the issue, validated a position, and coherently gave reasons that supported their case.

A strong argument against the proposition is: students should not be forced to participate in extracurriculars that do not interest or suit them. Sports are already compulsory in schools, and the current syllabus of the Victorian curriculum provides primary aged students the opportunity to engage with different team sports and see what suits them. However, for some children, sport does not interest them at all -in fact, it can sometimes be a humiliating affair. When children have choice in their extracurriculars, they are defining their lives by what makes them happy and brings them joy outside of school. Some children are simply not interested at all by sports, and may have other passions such as music, writing, reading, dancing or more that would be undermined by their forced participation in team sports in addition to already scheduled physical activity at school. Although sport may boost endorphins and give children the chance to socialise with one another, children already have their entire school day to socialise with other children, and already scheduled PE lessons to explore sport. Their time is better spent pursuing their own passions, rather than being forced to spend their time doing activities that they do not enjoy and that could deterr them from any future physical activity. Children should have agency in their lives from a young age -further enforcement of what they can and can't do is not necessary.