

THINKING SKILLS

Paper 9694/21
Critical Reasoning

General Comments

The paper produced a spread of answers, and the topics generally engaged candidates, although there was evidence of candidates agreeing, disagreeing and copying material rather than fully engaging with the material in a critical, evaluative way.

Comments on Individual Questions

Question One

Allowances were made for variations in candidates' answers which arose from regional variations in healthcare provision / tendency to be litigious.

Overall, this question was done best; in some cases time seem to have been devoted to attempting perfection in this question at the expense of time spent on **Questions 2 and 3**.

- (a) Most candidates were able to say that Sonita's wedding may have been the cause of the anaesthetist's distraction which may have caused the injury, and thus access both marks. The most able candidates went beyond this to discuss the credibility issue that, if Mrs Gomez knew about the wedding, she probably heard about it from the anaesthetist's discussion with the nurse.
- (b) Most candidates were able to give some support to their assessment of the reliability of Mrs Gomez's evidence. The most able considered that some claims were more reliable than others (and why), taking into account the circumstances of the operation, the corroboration by Dr Latif and Mrs Gomez's reputation as a difficult, complaining old lady with a daughter who takes out law suits. Weaker candidates tended to make assessments that were too strong, taking Mrs Gomez's vested interest or her advanced age as conclusive proof that she was either lying or too senile to know what happened.
- (c) Most candidates were able to answer that Dr Latif's probably neutrality and expertise made her more reliable than Dr Higes, as Dr Higes had a vested interest to minimise his own role to protect himself, and also showed himself to be unprofessional with his attack on Dr Latif. The strongest candidates considered the quality of the corroborating evidence. Weaker candidates thought that Dr Higes was entirely unreliable because he claimed not to remember a particular operation.
- (d) Most candidates performed reasonably well in this question. More candidates than in previous years picked up the mark for consideration of the plausibility of alternative scenarios, as they picked up on the suggestion from the stimulus material that Mrs Gomez's problems may be related to slow recovery at her age. The best of these were also able to consider that this suggestion did not fit with Mrs Gomez's account of being told that she would be well within a week. Strong candidates generally made evaluative use of the evidence, considering implications and the strength of conclusions that could be drawn from the evidence. They also considered gaps in the evidence, and drew on earlier assessments they had made. Weaker candidates tended to copy the evidence, and repeat points they had made earlier in the question.

Question Two

- (a) Many candidates were able to make comments about the difficulties in measuring something as subjective and variable as happiness, or the oddity of using life expectancy and ecological footprint as part of a definition of happiness.

- (b) The majority of candidates were able to say that people are far less likely to be completely satisfied than generally satisfied, so people who would have ticked the highest box before 1964 would have ticked the middle box afterwards, so the poll did not actually mean that people were becoming less satisfied as they got richer. Weaker candidates talked about answers being better and more precise after 1964 and missed the point about conclusions drawn from the poll.
- (c) Many candidates were able to provide a strong explanation of the limitations in the support given to the conclusion by Mayr's experiment. Many candidates thought that there was a significant difference between being given money for nothing and having some taken away, and earning money and having it taxed. A reasonably high number questioned the vagueness of the brain lighting up, and what exactly caused this. Weaker candidates thought that the experiment did fully support the conclusion and tended to copy the stimulus material instead of explaining.
- (d) Many candidates were able to produce an argument using the stimulus material and evaluating it to a certain extent. The strongest candidates made critical, evaluative use of the evidence provided to support their own reasoning. Candidates who interpreted the question as referring to them personally rather than people in general were able to access the full range of marks so long as they obeyed the instruction to use and evaluate the material provided. A large minority of candidates answered entirely personally with no reference to the information provided, which limited the mark they were able to attain.

Question Three

- (a) Very few candidates accurately identified the main conclusion, that, "the expense (of paying your way through college) is not worthwhile." A reasonable number either included the intermediate conclusion, "because most students actually get very little from university education," or provided only the intermediate conclusion. These candidates were awarded the mark on the basis that their answers were closer than the vast majority of candidates, who either provided one of the reasons or summarised the reasoning. This is an area which Centres could reasonably aim at improving, as very many candidates simply performed the wrong task.
- (b) Again, many candidates summarised the reasoning or quoted evidence rather than reasons. This is in strong contrast to performance on 9694/22, where candidates generally attempted the right task, even if with partial success.
- (c) Most candidates were able to access Level 2 marks, either for some evaluative comments or for relevant counter argument. Some candidates were able to access Level 3 marks for an evaluation of the strength of the argument, but there was a lack of evidence of thorough evaluation of the reasoning rather than intelligent agreement or disagreement. Allowances were made for comments arising from regional variations in educational provision; for example, candidates who evaluated the argument on the basis that in some countries, including their own, the best higher education is free (whereas the argument assumed that university education was expensive everywhere) were given credit.
- (d) Most candidates were able to write an argument, although there were a number of opinions unsupported by any reasons. A short, simple argument with one or two reasons which really support the conclusion, and perhaps a relevant example, is very much better than a lengthy opinion with little support given. Many candidates were able to give relevant reasons for staying in education until 18, relating to maturity and qualifications. Too many said that it was necessary to stay in education until the age of 18 because basic reading and writing skills were necessary for all. This was felt to support a claim that 'everyone should receive primary education' rather than the claim that was given. Candidates who argued that some candidates should remain in education beyond the age of 18 were able to access full marks if they argued well.

THINKING SKILLS

<p>Paper 9694/22 Critical Reasoning</p>

Overall performance was very pleasing. Candidates responded well to the subject matter of the questions and produced answers which demonstrated a generally high level of critical thinking.

Question One

- (a) Most candidates were able to talk about the reliability of the reports published in the North Star, commenting on specific claims. The strongest candidates differentiated between reliable claims and unreliable claims, and noted the tendency to speculate and jump to conclusions. Many used other sources to corroborate specific claims in the North Star reports. Some weaker candidates talked only in general terms about the reliability of a newspaper without commenting on the specific reports. Some weaker candidates talked about whether the claims made by the North Star were true without using this discussion to come to a judgement about the reliability of the reports.
- (b) Candidates were split fairly equally. Some candidates believed that it was reasonable that Migi might not know about Peter Long's possible identity as Dal Sam, as they had only just met up after a long time, as a terrorist might well conceal his identity, and as a singing celebrity might be naïve or not interested in politics. Others believed that this claim was not reasonable, because, as a close friend of Peter's who had known him since childhood, and as someone who cared passionately about the injustices against the south, Migi would very probably be aware of any illegal activities, especially if they were a big part of Peter's life. Only the most able saw that there was a grey area, and that the answer depended on a number of things, such as how strong (how well publicised) the link is between Peter Long and Dal Sam.
- (c) This question was generally well answered, with most candidates seeing some significance in the neutrality of the police and the use of the reports to decide what was the case. Candidates who felt that the police were not neutral, and who used this idea well were also able to access marks. Weaker candidates tended to repeat the content of the reports and leave it to the Examiner to interpret the significance.
- (d) This question was generally well answered, with more candidates than normal considering the plausibility of the different alternatives that Migi was, or was not, involved in terrorist activities. Candidates were fairly evenly split between the belief that Migi probably was or probably was not involved in terrorist activities. The best candidates used and evaluated the evidence provided, considering implications, testing how far a piece of evidence could support their conclusions, taking reliability into consideration and thinking about what other evidence might be needed. A strong candidate might argue, 'We know that Migi comes from a poor background in the south, and that her song lyrics deal with the injustice of southern poverty. This does not necessarily mean that she is involved in anti-Northern terrorist activity, but, taken together with her outburst on the television show when she showed strong anti-Northern sentiments, it does show that she has very strong feelings. Taken together with her closeness to Peter Long, who may well be the leader of the SST, it is possible that these strong feelings might lead her to engage in SST activities. However, there is not enough evidence to prove this.' A weaker candidate might argue, 'Migi is from a poor part of the south and she sings about injustice so she supports the terrorists. Her outburst proves that she has anger management issues so she is a terrorist.'

Question Two

- (a) Most candidates answered this question well. Many saw an important difference between rats and people (such as that rats cannot talk about their memories), and the most able differentiated between a specific memory and a feeling of disgust which might accompany a memory.

- (b) Many candidates explained why people who would never take memory altering drugs themselves believed that these drugs should be available for others. This answer gained some credit, but full marks went to those who explained how they were able to conclude this with reference to the source material.
- (c) This question caused some confusion, but also produced some outstanding answers. Some candidates, notably girls, were unable to imagine how one would injure oneself on trousers. A large minority of candidates interpreted the question to mean that some people would take the memory altering drugs in response to minor incidents such as injuring themselves on their trousers, and felt that this was a weak reason, because most people could see that there was an important difference between a minor injury and a traumatic experience, and in any case, there would be regulations to govern use. These candidates were able to access the full range of marks depending on the quality of their answer. The majority of candidates interpreted the question as the mark scheme predicted. The best of these showed some subtlety of understanding that this example shows that, if people cannot be trusted with simple objects, they should not be trusted with more dangerous drugs, but that regulation and need might outweigh this.
- (d) The most able candidates considered the implications and extent of the information provided, using this assessment to support their own reasoning. Most candidates used the information provided to support a view, without really evaluating it. Some simply copied the information.

Question Three

- (a) Most candidates were able to identify the main conclusion of this argument, although some weaker candidates thought that the conclusion was that 'Obama is only one man.'
- (b) Most candidates were able to identify two or three reasons.
- (c) Many candidates were pleasingly able to evaluate the quality of the argument, considering, for example, the assumption that Obama cannot solve problems he has not created, and evaluating this by saying that, although he cannot completely solve these problems, he can make a start, and he can provide leadership for the rest of us. There was, however, still a tendency to disagree with the reasoning rather than evaluating it.
- (d) Most candidates were able to provide a simple argument to support the claim that, 'we need to accept responsibility for our own lives.' Some candidates gave their opinions at length, often restating the given conclusion, without really providing support for any of these opinions.

THINKING SKILLS

Paper 9694/04
Applied Reasoning

General Comments

Overall, candidates found the paper similar in difficulty to last November's paper. As in previous sessions, there was evidence of candidates suffering from the time constraints. A number of candidates began with **Question 3**, and of those who did not finish, most omitted **Question 1**. On average candidates did proportionately better on the Critical Thinking part of the paper than on the Problem-Solving part – **Question 1** in particular caused problems (see below for details).

Comments on Specific Questions

Question 1

As in previous sessions, many candidates were not awarded any marks on this question – nearly a half did not score more than one mark on it. This was worse than previous sessions. The solution space for this question (the variety of possible combinations of times which needed to be investigated) was smaller than normal, and a methodical approach to the solution more accessible, but the calculations involved were trickier, and this proved troublesome to candidates. Those who managed to implement the successive 10% reductions for the number of listeners after the adverts were spread evenly over the remaining marks, which led to a larger number of high scoring candidates than normal.

- (a) Almost all of those who were able to access the question scored two marks here. It was hoped that in asking candidates to prove a relationship at the beginning of the question, confirmation of their successful understanding would encourage them to persevere.
- (b) Only a third of the candidates managed to gain any marks on this question; but many of those who did got two marks or more. Justifying a maximum number requires a demonstration that the next value up is impossible (by calculating it, or by precise numerical reasoning, or by means of algebra); many candidates were happy to rest having found a likely looking answer in '3', which could gain them at most two marks.
- (c) This was a relatively simple question, after the demands of part (b), although the shift in focus threw some candidates.
- (d) Candidates were well rewarded for clear working on this question, although only a very small number located the maximal solution. This was, as always, a result of the limited time available.

Question 2

This proved to be a relatively accessible problem-solving question. Of those who scored, however, about half did not seem to fully appreciate the logic of the two-way tables which summarised the votes cast. The marks were spread over the range of 10 fairly evenly.

- (a) This was well done by all candidates who managed to make headway with the question.
- (b) The logic of this question was appreciated by the majority of candidates who made serious attempts at the question. There was fairly little evidence of calculation errors.
- (c) This question divided the candidates – in that those who failed to appreciate the structure of the two-way tables reached a ceiling at **2(c)(i)**. In general **(ii)** was answered fairly badly; most of the unsuccessful answers completely failed to include the second vote.

- (d) This was a relatively structured and straightforward question, accessible to those who laid out their answers clearly and carefully. There were no extra pieces of information which could catch candidates, as has been in the case in previous papers. The (generous) mark scheme did not differentiate between those who had guessed and those who had carefully calculated the correct number of votes here; but those who omitted the second count were steered towards incorrect solutions.

Question 3

Almost all candidates appeared engaged in the issues raised by the source documents. The scale of the issues raised by the argument left some candidates unable to deal appropriately and critically with both sides. In particular, a number of candidates who saw predictions of the future as pointless (for, possibly, well-founded reasons) failed to deal with the more precise problems raised by the variety of specific views of the future represented in the documents. The vast majority of candidates attempted all three parts of this question.

- (a) The polar stances represented in Document 1, and the embedded logic of the argument made the analysis of this document more difficult than in previous years. Very few candidates scored full marks here, and this was mainly because of an inability to separate out the various precise criticisms that were made of the Whitehall Foresight programme. A substantial minority of candidates focused their analysis on a careful description of the Aymara's view of the future – which may have been the most memorable aspect of the document, but was only one element of the argument. Candidates from certain Centres did not seem to be aware of the need to quote the documents when analysing, and a small number offered commentaries on the literary techniques used by the author (such as persuasive language, and rhetorical questions etc.) which gained little if any marks. Those who offered the latter (inappropriate) analysis of the document were fewer than in previous sessions.
- (b) As usual, candidates found this key critical thinking task hard, very few managing the three developed points which would win full marks. The focus on the data, and the irresistible rise of GGP, obscured the key assumption that any measure of overall gain will still allow for extremes of poverty. The graph drew an appropriate amount of commentary, although the subtleties of its logarithmic axis left most candidates unable to develop their evaluation in a sophisticated way. A number of candidates referred to the recent global recession, which had not begun when the article was written. These responses separated into those who simply stated that this “showed the predictions were wrong” (a 1 mark answer) and those who used it as an example of the unpredictability of such things (possibly a 2 mark answer).

Most candidates who did well here did so by describing weaknesses in the author's reasoning in their own words rather than looking for classic, 'named' flaws (such as a straw man). As in previous years, the mark scheme did not generally credit “the author failed to consider 'x'...” as a weakness. This included comments about the baselessness of the author's secret method, mentioned in paragraph five. Some attempt to explain the significance of such an opaque model was needed to gain marks here – such as reference to the dangers of extrapolation so far from the scope of the data, or the variety of possible models which could be justified in this way.

- (c) Most candidates argued against the statement, and many arguments suffered from a one-sided consideration of supporting reasons. In particular, the tendency to see global warming and war as all that was needed to be said on the issue left the median mark for **3(c)** at 7 marks. Candidates needed to refer to some of the other documents in a bit more detail to gain upper middle band marks, and clearly few had time to do this.

In comparison to previous sessions, candidates did find it much easier to state and stick to a clear conclusion in their arguments. Very few appreciated that the statement made two separate claims (one about the wealth of the poorest nations, and the other about health and prosperity of all).

Unsurprisingly, documents 1 and 3 featured most commonly in candidate's answers. Those who did refer to the other documents mostly made cursory references to the fact that 'nothing is predictable' [document 2] and 'we are heading for global catastrophe' [document 4]. In order to access the upper band, candidates needed to show some appreciation that these documents could be criticised (for instance, that the prediction of particular scientific discoveries is very different to the prediction of vast statistical trends). The difficulty that candidates must face, given the strictures of time, is to extract the relevant arguments from these secondary sources, without being

sidetracked by the detail; a number of candidates commented on the impossibility or irrelevance of time travel in Document 2, although this was a minor distraction from the main point of the piece.

Very few candidates explicitly considered counter-arguments to their positions (which is an aspect that upper top band answers should hope to include).