

- “some candidates did not effectively link the knowledge issues they identified with the title of the essay - a practice which risks the examiner deeming parts or all of the essay irrelevant”

- “while it is good to be able to identify knowledge issues, the teachers ought to be making it perfectly clear that these issues must logically follow from the prescribed title”
- “decomposing a knowledge issue into several questions seemed a popular approach, but the problem was that the questions were never answered – more often than not they were left as rhetorical questions”
- “I feel disturbed by the number of students who have evidently been coached to force into their essays an overt listing of ‘my knowledge issues’”
- “there was a significant number of candidates who took the knowledge issue from the prescribed title and spun it into a new knowledge issue that often moved them off topic”.

The point is that knowledge issues identified and addressed in essays must arise naturally from the process of unpacking or exploring the title, and this must be done in advance of detailed planning and writing of the essay so that disconnection between the title and the essay is avoided. The identification of relevant knowledge issues should always be the result of sustained prior thought about the title. It is also important to note that some titles may need more unpacking than others, and candidates need to be aware that the shorter titles may well be the ones that require more work at this very early stage as there is less structure provided by the title itself. Too often, weaker candidates are attracted to such titles because they appear superficially more straightforward and candidates fail to appreciate the work that needs to be done in order to construct a viable response. Teachers are encouraged to find opportunities to practise with their students unpacking and exploring the possibilities that titles offer – this can probably be achieved most successfully through the use of prescribed titles from previous years.

Candidates are encouraged, wherever possible, to treat ways of knowing within a context of areas of knowledge (related in particular to criterion A) or supported by concrete examples, in order to avoid treatment in the abstract. Addressing them in isolation or without reference to established knowledge easily leads to anecdotal claims and unsophisticated and unrealistic hypothetical examples which add little to the understanding of learning and knowing.

Teachers should note the prevalence of clichéd claims about the nature of various parts of the course – for example that:

- mathematics is purely a product of reason
- there is one scientific method comprising five sequential steps starting with observation and finishing with a law
- the human sciences struggle to establish knowledge because human behaviour is totally unpredictable
- historians are self-evidently biased and the history they produce is deeply parochial
- the arts are concerned exclusively with the transmission of emotion

- moral judgements are relative.

More guidance for students would be welcome here in order to facilitate an understanding that such assertions may be inaccurate, wrong, or at least eminently contestable.

Once again, candidates need to be made aware that hypothetical examples (related most obviously to criterion B) almost never work as support for claims made in essays; it should be emphasised that they function essentially as fabricated evidence, and thus cannot lend weight to whatever argument is being offered. As one examiner notes, “students need to be supported towards gaining awareness that their examples should be authentic and thus based within their IB Diploma programme studies, including CAS, or based upon solid and meaningful examples from the student's more informal personal life experience”.

While commonly employed examples, such as the shape of the Earth, the structure of the solar system, origins of the universe, evolution, the Holocaust, art works such as the Mona Lisa or Guernica, etc., can be profitably used in essays, they must always be relevant to the claims being made, and be treated with respect and factual accuracy. But with a modicum of thought, other fresher examples from academic experience are usually within the candidates' grasp. Furthermore, many examiners feel that candidates do not always make use of their own personal heritage and should be encouraged to reflect more on the applications of knowledge issues in their cultural contexts. In this way they will be able to evaluate their own perspectives (criterion B) in relation to the prescribed title.

Examiners routinely comment that often, quality of analysis (criterion C) is the criterion where they find it most difficult to award higher scores. One examiner comments that a particular weakness was found where candidates tended to “offer more of a vague opinion than an analysis, and very rarely offered something original and personal with an analytic approach”.

Candidates should be warned of the pitfalls of approaches that are too descriptive or speculative. Some essays lack effective counter-claims, and sometimes they are present but expressed poorly, such that they appear to be contradictions rather than explorations of alternative viewpoints. Candidates should take care with the ways in which they introduce such contrasts. Counterclaims should arise naturally from arguments made or evidence presented and they may, for instance, be in the form of different perspectives or alternative evidence which will need to be evaluated. The metacognitive dimension of TOK lies at the heart of the course, and candidates should be encouraged to take a step back from their own arguments in order to grasp the possible implications of what they are asserting.

Although there seemed to be a slight improvement this year in the treatment of key terms in the titles, in far too many cases, the definitions were still being extracted from various dictionaries. Usually, these definitions are subsequently ignored and thus add no value to the work. It is emphasized once again that this type of use of the dictionary has the effect of closing down discussion and conceptual analysis just when it is desirable to open them up at an early stage in the essay. Rather than trying to pin down a definition of, say, ‘knowledge’, in a sentence in the introductory paragraph of an essay and risking making the rest of the essay irrelevant, it would seem a better strategy to indicate what is understood by the term by giving examples and stating that a closed abstract definition might be outside the scope of the essay. In the age of the Web, instant access to quotations continues to prove too tempting for many candidates. One examiner wrote: “organization of ideas still poses problems especially

in relation to the use of quotations at the beginning of the essay, and the ubiquitous use of dictionary.com or other online resources to offer definitions in a candidate's introduction doesn't help either." Another wrote: "Brainy Quotes' and other collections of quotations are weak sources and the quotations are often meaningless when taken out of context." Candidates should also avoid the use of bulky footnotes offering lengthy clarifications of terms, concepts or examples – these usually appear to be attempts to circumvent the word limit, and examiners are not required to read them.

Many candidates seem to struggle with overall essay structure (criterion D). In the words of one examiner, "students must avoid writing vague and meaningless introductions and rather use the introduction in a business-like manner in which to unpack key terms and ideas in the prescribed title, indicate the main questions of knowledge concerned..." The introduction has a concrete purpose – to present the candidate's position in relation to the title. Successful essays often set out the scope of the essay in the introduction.

Attention must be paid to the flow of an argument and also to the length of paragraphs. Many examiners complained of inappropriate responses to the requirements for acknowledgements in essays – with some candidates either providing no references at all, or appending vast bibliographies that seemed to bear no immediate relationship to the content of the essay. Candidates and teachers are reminded that references to online sources should include access dates, and that quotations must be linked to references in some conventional manner through citations.

The attention of candidates and teachers is drawn to the word length for the TOK essay. While 1,200 words is an acceptable length in principle, it is often difficult to construct a convincing analysis without making use of the further 400 words allowed. Candidates should be encouraged to make as much productive use as possible of the full 1,600 words permitted. However, candidates should be reminded not to exceed this limit, even by one word, because the penalty associated with criterion D (maximum score of 4) will immediately be applied.

There are now numerous TOK 'textbooks' or 'companions' available to candidates. It is worth reiterating here that such materials can be useful but candidates should avoid undue reliance upon them in their essays. In particular, many essays refer to these books as a source of examples unfortunately taking precedence over the candidates' first-hand experience of areas of knowledge during the course of the IB Diploma Programme. Candidates would be well advised to consider their own contact with their Diploma subjects a rich source for detailed exploration of knowledge issues.

Feedback on Specific Titles

Again there have been reports during these two sessions that students sometimes paraphrased the prescribed title. This sometimes resulted in a lack of focus on knowledge issues; teachers are reminded not to allow students to change the prescribed title in any way. It seems as if some teachers are presenting the prescribed titles to students as "prompts" – the use of this term may suggest that they are mutable to some degree and its use is hence thoroughly discouraged.

As in previous years, candidates appear to have found some prescribed titles much more attractive than others, though quantity did not always correlate to quality, and it is possible

that many candidates chose titles without sufficient careful thought. Four examples of knowledge issues are given for each of the ten prescribed titles. These examples are clearly not meant to be exhaustive or definitive; because each title can be, and usually is, addressed in many different ways, their inclusion here is illustrative. The knowledge issues indicated are in some cases rather general, and might well be refined in the course of an essay.

Knowledge is generated through the interaction of critical and creative thinking. Evaluate this statement in two areas of knowledge.

Four examples of knowledge issues that *could* be addressed in this title:

- To what extent does critical thinking depend on creative thinking, and vice versa?
- To what extent do critical and creative thinking rely on established methods that lead to knowledge?
- To what extent do critical and creative thinking build upon prior knowledge?
- Is it possible to generate knowledge through critical thinking alone?

Responses to this title often, rather predictably, identified the natural sciences as an area requiring critical thinking, and the arts as an area requiring creative thinking. However, some candidates did write about how both types of thinking are inherent in the methodologies of a range of areas of knowledge, and identified counterclaims to the rather clichéd dichotomy – for example, creativity in hypothesis-formation, and critical thinking in the construction of art works and their appraisal by critics. The title generated a plethora of examples in which students claimed to know what was in the heads of famous people. Candidates who chose this title sometimes failed to characterise the two types of thinking clearly, and often waited until the essay was almost concluded before bringing them together and belatedly trying to show how they might have a dynamic and necessary relationship. This was unfortunate because the key to the title lay in a discussion of the nature of the *interaction* between them. Many candidates seemed to take the view that the existence of both types of thinking constituted an interaction in itself.

Compare and contrast knowledge which can be expressed in words/symbols with knowledge that cannot be expressed in this way. Consider CAS and one or more areas of knowledge.

Four examples of knowledge issues that *could* be addressed in this title:

- What is the role of personal experience in the construction of knowledge?
- How do the features of natural language assist or frustrate us in the production and acquisition of knowledge?
- Do propositional and non-propositional knowledge have equal value?
- To what extent can the knowledge gained from CAS be applied in another area of knowledge?

While there may be difficulties in discussing knowledge that is difficult to share, many candidates wrestled particularly unconvincingly with the idea of knowledge that is not expressed in linguistic form. Treatment of CAS seemed to consist largely of descriptive accounts of emotional moments associated with participation in service projects. While the inclusion of personal experience is to be welcomed in TOK essays, it needs to be subjected to the same degree of rigorous analysis as meted out to claims from other sources. Many responses included claims that language is incapable of accurate expression of emotion – usually these assertions were made as if they were self-evidently true, and so no supporting analysis was provided. Candidates sometimes did not seem to know that words are a category of symbols, and treated them entirely separately, often contrasting them with symbolic representation in mathematics.

Using history and at least one other area of knowledge, examine the claim that it is possible to attain knowledge despite problems of bias and selection.

Four examples of knowledge issues that *could* be addressed in this title:

- In what ways can bias and selection make positive contributions to attaining knowledge?
- To what extent can bias and selection be considered as independent influences on the construction of knowledge?
- In order to be accepted as knowledge, must claims be free of bias? Is this possible?
- What are the roles of deliberate and inadvertent selection in various areas of knowledge?

Although there were many competent responses to this title, problems with the identification of key terms still abounded. These primarily concerned either the conflation of “bias and selection” as one concept, or the treatment of bias to the exclusion of selection. Additionally, many candidates focused on justifying or explaining the existence of bias, rather than suggesting how to construct knowledge despite the prior existence of bias. In most cases, history was contrasted with either the natural or the human sciences – arriving at the conclusion that bias is a greater obstacle in history. Again in these comparisons, selection was often ignored, or treated exclusively as a negative, if unavoidable, phenomenon. In those essays that dealt with the business of acquiring knowledge, candidates often exhibited a more nuanced understanding of the methods of the scientist than those of the historian, and this imbalance was arguably responsible for some uncharitable and unwarranted conclusions about history as an area of knowledge.

When should we discard explanations that are intuitively appealing?

Four examples of knowledge issues that *could* be addressed in this title:

- Are some areas of knowledge more productive of explanations that are intuitively appealing?
- To what extent do intuitively appealing explanations depend on culture or perspective, and how do these factors influence what can or should be discarded?

- What roles do intuition and reason play in the support of explanations?
- Are intuitively appealing explanations more likely to be true than explanations supported by other means?

Many essays on this title started from a deeply flawed foundation. Candidates seemed determined to launch an analysis about intuition as a putative way of knowing and to focus on its role in various areas of knowledge or personal experience. Some candidates simply tried to build an entire argument from a dictionary definition of the term. A majority of essays made no effort to examine what might be meant by an explanation; even when the word was acknowledged, the essay often examined explanations *for* knowledge derived through intuition, and *of* intuition itself, rather than the status of explanations of other phenomena that *appealed to* intuition. These misunderstandings arise directly from a failure to deliberate seriously on the wording of the title and to unpack it effectively, and provide a striking example of the shortcomings of this nature mentioned earlier in this report. Those essays that showed an understanding of the question sometimes produced unhelpful answers – for example, simply that we should discard such explanations if they are wrong. This was fair enough for a starting point for analysis, but often the means by which such explanations could be distinguished from others were not evaluated.

What is it about theories in the human sciences and natural sciences that makes them convincing?

Four examples of knowledge issues that *could* be addressed in this title:

- What is the relationship between a convincing theory and a correct theory?
- Who needs to be convinced by a theory?
- Which features or functions of theories are most effective in making them convincing?
- How convincing does a theory need to be in order to be accepted?

This question was adequately addressed by many candidates. However, numerous candidates failed to develop and delineate clearly the concept of a theory, with a number of unfortunate consequences. Chief among them was the skewing of the response toward a more general consideration of knowledge in the natural and human sciences – often manifested as a critique of scientific method as a whole. Some clichéd versions of this method placed “theory” as the sole final product of science, and thus legitimised the inspection of the entire scientific procedure as a “production line” for theories. Some candidates considered the status of the two areas of knowledge automatically conferred convincing status to the theories they produced; others focused too much on personal response to theories as if the theories themselves had some kind of obligation to be convincing to the average lay person. Others again, perhaps conceptualising theories too loosely, contended that they are by definition speculative, and thus compromised on first principles with respect to their capacity to convince. Stronger candidates contrasted theories in the two areas of knowledge with reference to the differences in their subject matter.

‘It is more important to discover new ways of thinking about what is already known than to discover new data or facts’. To what extent would you agree with this claim?

Four examples of knowledge issues that *could* be addressed in this title:

- What counts as a new way of thinking in different areas of knowledge?
- How can we know when a new way of thinking is needed?
- What is the influence of ways of thinking on the collection of data or facts?
- How can the discovery of data or facts and of new ways of thinking work together in the production of knowledge?

Although most candidates came to the conclusion that both new ways of thinking about what is already known and new data/facts are important, many struggled to establish a clear distinction between the two processes. This rendered the subsequent analysis problematic, and often the examples that were offered did not clearly illustrate one or the other type of discovery, or which aspect of the example illustrated which. Frequently, candidates accepted the claim that it is more important to discover new ways of thinking and then proceeded to develop an argument based on new thinking that required, for its basis, new facts. Very few acknowledged that their examples illustrated that the order of events was new facts first followed by new understanding. Stronger essays showed how the two processes can be intertwined in a sort of dialectical relationship, and many invoked the concept of a paradigm to show how the discovery of new facts or data can lead to the development of a new way of thinking, which in turn directs the harvesting of new data and facts according to different principles. Few candidates paused to consider explicitly what “more important” might mean in the title.

‘The vocabulary we have does more than communicate our knowledge; it shapes what we can know’. Evaluate this claim with reference to different areas of knowledge.

Four examples of knowledge issues that *could* be addressed in this title:

- What is it about words that empowers them to do more than simply transfer knowledge from one person to another?
- Is it possible for a concept to be incomprehensible to speakers of a particular language if it is inexpressible in that language?
- If the vocabularies of different languages carve out different sets of concepts, what are the implications for knowledge?
- Through their specialized vocabularies, is it the case that the shaping of knowledge is more dramatic in some areas of knowledge than others?

In large measure, this title was not well understood. Many essays, despite the hints in the title, focused almost exclusively on the communicative function of vocabulary, and many

candidates simply equated vocabulary with language in general. The emphasis on language was often exclusive, and few or no areas of knowledge were directly discussed. Some essays took a largely descriptive approach – working through some well-rehearsed material on the Sapir-Whorf hypothesis and the language of the Piraha. Orwell's 1984 was quoted without the caveat that novels do not necessarily describe reality, and without consideration that the author might have been wrong in his portrayal of the power of language. The intention of the title to elicit discussion on how vocabulary is the purveyor of concepts that shape an area of knowledge, constructing the values that order it and the tools that validate it, was seldom recognised. Many candidates reconfigured the title and explained how knowledge is necessarily limited by lack of vocabulary, or that certain types of knowledge do not require vocabulary – thus missing the main point altogether.

Analyze the strengths and weaknesses of using faith as a basis for knowledge in religion and in one area of knowledge from the ToK diagram.

Four examples of knowledge issues that *could* be addressed in this title:

- Is it possible to have knowledge without a contribution from faith?
- Where is the boundary between faith and confidence or hope?
- To what extent is faith a personal way of knowing or a shared experience?
- Is it possible for faith and reason to work compatibly together in some areas of knowledge?

Responses to this title tended to fall into categories. Some candidates asserted the weaknesses of faith as a basis for knowledge but then described their own personal experiences with religion while ignoring the previous characterisation of faith. Others felt so strongly that religious faith and religion as a whole were baseless that they seemed to fail to remember the need for balance in a TOK essay. Some candidates of a religious persuasion appeared to have chosen this title because they thought it would be easy for them, but often the resultant essays did not showcase knowledge issues at the forefront of the analysis. Overall, the impression was that many students trying to write about religion really did not know much about it and were relying on stereotypes they had gleaned from television or other forms of popular media. The most commonly chosen area of knowledge for comparison was the natural sciences, and some essays succeeded in making a convincing case for a role for faith – in the logical processes of science or in the acceptance of basic assumptions without which knowledge could not get a foothold on reality. There were also some sophisticated treatments of faith in economics!

As an IB student, how has your learning of literature and science contributed to your understanding of individuals and societies?

Four examples of knowledge issues that *could* be addressed in this title:

- Given that the product of literary activity is often fiction, how can it contribute to an understanding of real individuals and societies?

- To what extent is there an overlap between the contributions of literature and science to the understanding of individuals and societies?
- What are the features of the knowledge produced by literature and science that provide us with insights into how individuals and societies operate?
- Could it ever be claimed that the natural sciences contribute more to the understanding of individuals and societies than the human sciences do?

Too often, responses to this title comprised descriptive accounts of material that the candidates had covered in IB classes in literature and either a natural science or psychology. Many candidates took the title as an invitation to praise reflectively the impact that such IB courses have had on their intellectual development. However, the treatment was usually superficial and revolved around the specific content of the texts read in literature and the facts learned in science, rather than making a concerted attempt to examine the nature of these disciplines in order to ascertain *how* they delivered insights about individuals and societies. A frequent problem was that candidates tended to repeat the phrase "individuals and societies" even when they were writing about only one or the other. Some candidates seemed to approach the task from the perspective of writing a world literature assignment (literary analysis) rather than adhering to the imperative to place knowledge issues at the centre of the discussion.

‘Through different methods of justification, we can reach conclusions in ethics that are as well-supported as those provided in mathematics.’ To what extent would you agree?

Four examples of knowledge issues that *could* be addressed in this title:

- To what extent are the methods of justification in mathematics and ethics different?
- Do the principles of ethical theories and the axioms of mathematics perform the same functions in their respective areas of knowledge?
- To what extent do mathematics and ethics make use of the ways of knowing in similar manner?
- On what basis are methods of justification selected in different areas of knowledge?

Essays on this title tended to polarise between the very good and the poor. Some of the better essays focused on trying to apply the tools and concepts of mathematics to the domain of ethics in order to explore the possibility that the methods of justification in the two areas of knowledge are actually similar. Stronger candidates compared different axiomatic starting points in mathematics (for example, different geometries) with the different principles upon which reasoning in ethics might be constructed. In this way, we might have confidence in the processes of justification in ethics even if the content of the analysis remains contestable. Other essays tried to posit the role of reason in mathematics in parallel with a role for emotion in ethics, but such analyses tended to be less successful as they started from positions that were difficult to compare. Some weaker essays focused too much on the conclusions that mathematics and ethics generate without a due consideration of how they were arrived at.