

THEORY OF KNOWLEDGE

To secure success for their candidates, schools are strongly recommended to ensure that this report is read in detail by all TOK teachers, and the Diploma Programme Coordinator.

Overall grade boundaries

Boundaries for this session were set as below:

Grade:	E	D	C	B	A
Mark range:	0 - 4	5 - 10	11 - 16	17 - 22	23 - 30

Teachers are reminded that the essay score is doubled and added to the presentation score to give a maximum possible total of 30 marks.

Statistical Summary

	November 2017	November 2016	% change
English	5356	5087	+5.29%
French	0	1	-100%
Spanish	6116	4600	+32.95%
German	1	0	-
Chinese	31	34	-8.82%
Japanese	24	8	+200%
Total candidates	11528	9730	+18.48%

Section 1: The essay

Component grade boundaries

Essay grade boundaries for this session were set during the grade award meeting after extensive reading and discussion of scripts, as follows:

Grade:	E	D	C	B	A
Mark range:	0-1	2-3	4-5	6-7	8-10

These boundaries remained unchanged again from previous sessions.

Examiners

Thanks are extended to the 101 examiners who assessed TOK essays this session. The comments in a document such as this tend to focus on weaknesses of assessed work, but there are many rewards associated with the opportunity to appraise TOK work from around the world. Teachers who wish to become examiners can visit <http://www.ibo.org/informationfor/examiners/> for more information (note that teachers must have one year experience of teaching TOK before examining). It is often the case that teachers find examining helpful both in terms of their own understanding of the course and for the insight afforded with respect to the strengths and weaknesses of their own candidates.

General comments

Taken as a whole, essay work this session exhibited a modest decline in quality as compared with that of November 2016. However, the overall picture masks once again a severe dichotomy between performance in the English and Spanish language domains. The principal examiner for Spanish summarised the issue as follows:

“Examiners’ reports on essays in Spanish expressed the grave concern that many essays did not reflect that any TOK course had been followed in the candidates’ schools. Several examiners went so far as to say that they felt indignation because candidates from those schools have been so badly served by them.

By its very nature TOK is different from other subjects. It is precisely because teachers do not come with a degree in TOK that there should be solid professional development to prepare teachers adequately to teach the course. Moreover, it is a huge misunderstanding of the educational philosophy of the IB to consider that, because there are not many points out of the possible 45 involved, it is not worth doing TOK properly. A grasp of the philosophy of the IB reveals that the critical thinking about knowledge which TOK provides is beneficial in all subjects and essential for the acquisition of the attributes of the learner profile.

The TOK guide outlines the TOK course in detail and with clarity. It is expected that TOK is taught using the guide as a basis. However, it seems to have been ignored by several schools where their students showed no or very little knowledge and understanding of TOK. It is a matter

of great urgency that schools which are failing their students change their approach and assume the responsibility they have as educators.”

Degree and quality of apparent teacher guidance

Examiners once again expressed concerns that assistance to candidates veers from far too extensive to non-existent. At one extreme, it seems that candidates are being provided with common templates and formulaic guidance such that there is little room for them to express themselves in their own terms.

At the other (and more common) extreme, there are large numbers of essays that seem to have been written by candidates with no input from teachers at all. Examiners lamented that in such cases teachers must have been either too detached even to read the candidates' work before submission, or lacking in knowledge of what kind of advice to offer. It appeared to some examiners as if candidates had in some cases barely been taught TOK at all, that their work had seemingly been done at the last minute. Teachers need to find ways to facilitate the degree of clarity in candidates' work without imposing their thinking upon the candidates themselves.

In the words of one examiner:

“The teacher guidance is a responsibility that should continue to be improved. We, as TOK teachers, should emphasize the key role of posing and evaluating appropriate knowledge questions that should be analyzed and evaluated, with the support of fresh examples to make the argumentation more effective. By and large, it was clear that students had some grounding in relation to the use of AOKs/WOKs but did not have a corresponding facility in formulating good knowledge questions.”

A further examiner ruminated as to the kind of simple general advice that teachers could impart that would leverage the quality of work:

“Candidates tend to spend too much time focused on all the reasons knowledge cannot be produced effectively or accurately. Typically, candidates formulate arguments along the following lines:

‘While some important progress has been made in the production of knowledge in this area of knowledge, generally there are too many ways that things can go wrong for us to be confident about it.’

‘While history is an important area of knowledge, writer’s bias makes it too unreliable to trust to give us any kind of accurate picture of past events.’

While the negative claim is not without merit, the emphasis is in the wrong place and this affects the impact or effectiveness of the entire argument put forth. Simply flipping the clauses in these sentences would make all the difference:

‘While there is bias, there has been significant progress nonetheless.’

‘While there are many obstacles to the production of knowledge in science and one could even argue that the history of science has been a history of mistakes, there has been a

great deal of success in this area that is both measurable and applicable to our everyday lives.'

By shifting the emphasis to what can be known and away from what cannot be known, the candidate writes an essay more clearly connected to the world in which she finds herself, a familiar world of everyday experience where the great work in all the areas of knowledge can be seen as relevant and meaningful. Essays that focus on problems with knowledge production to the exclusion of a consideration of its degree of success lead to a distorted or exaggerated account of their impact on well-intended, legitimate and generally productive research."

Lack of any oversight for candidates affects not only the content of the essay but also leads to a failure to observe clerical matters. Examiners continue to complain about essays that are single-spaced, include candidate names and session numbers – one articulated what many are thinking when she wrote that:

"It is hard not to let this aspect affect the quality of grade awarded as the formatting interferes with the ability to decode and track to candidate's line of reasoning".

Key points

- Some teachers are providing too much input, sometimes with counterproductive results.
- Some teachers seem not to be providing any guidance to candidates at all.
- The distinctive nature of the TOK essay requires carefully tailored support from the candidate's teacher.
- The balance between strengths and weakness of various kinds of knowledge should be carefully appraised such that the content of the essay coheres with the familiar world of knowledge that the candidate inhabits.
- Poor formatting can be difficult to ignore during the marking process.

Optionality in the course

In this edition of the TOK course, teachers and candidates are advised to study six areas of knowledge (see TOK subject guide, pages 8 and 28). In addition, there is a suggestion that four ways of knowing should be given particular attention (see TOK subject guide, pages 8 and 23). As the numbers of areas and ways presented in the subject guide exceeds these figures, there is freedom of choice as to which parts of the course can be studied. The subject guide provides for these choices in the interests of flexibility with regard to the local circumstances of schools and the interests and preferences of teachers and candidates. Fairness of assessment within this structure dictates that prescribed titles cannot specify parts of the course to be addressed in an essay, and so one of the first hurdles encountered by candidates is to make decisions as to which of them should form the bulk of the essay content.

The TOK essay is comparative in nature, and indeed many recent prescribed titles indicate explicitly that two areas of knowledge should be included in a response. It is important to be able to draw contrasts between the areas that are selected, and evidence suggests that the capacity to do this is uppermost in candidates' minds when they make these decisions. This is as it should be, but a sophisticated analysis is also dependent upon finding points of similarity

across the spectrum of knowledge, and this should be borne in mind as choices of areas are deliberated and made. The teacher's role in providing guidance to candidates should include some discussion on this matter as the decisions settled upon will have a strong bearing upon the eventual quality of the essay.

Key Points

- The generic nature of current prescribed titles means that great care must be invested in the choice of parts of the course to be examined
- While it is advisable to select areas of knowledge that show distinct contrasts, comparisons that allow points of similarity are also crucial to the balance and sophistication of the response

Misunderstandings about knowledge questions

It is clear that some candidates (and some of their teachers) have a poor understanding of what is required when attempting to respond to a prescribed essay title. As one examiner opined:

“Too many students still think that they have to immediately ‘invent’ a knowledge question instead of addressing the prescribed title and any questions or ideas that arise naturally from it. So, there are still far too many instances of students writing a knowledge question that is (at best) tangentially related to the prescribed title and, more typically, one that leads them off target or only partially addresses it.”

The following is presented as an attempt to clarify the intentions of the TOK essay task with respect to knowledge questions. The form of a prescribed title can vary to some extent:

It can be just a question:

To what extent do the concepts that we use shape the conclusions that we reach? (May 2016)

Should key events in the historical development of areas of knowledge always be judged by the standards of their time? (May 2017)

It can be a question followed by a clarification indicating how to respond to it:

Is the value of knowledge related to how easy it is to access? Develop your answer with reference to two areas of knowledge. (November 2017)

Given access to the same facts, how is it possible that there can be disagreement between experts in a discipline? Develop your answer with reference to two areas of knowledge. (May 2017)

It can be a claim followed by a question or clarification indicating how to respond to it:

“The simplest explanation is the best explanation.” Discuss this statement with reference to two areas of knowledge. (November 2017)

"Facts are needed to establish theories but theories are needed to make sense of facts." Discuss this statement with reference to two areas of knowledge. (May 2017)

In all of these cases, **the task is to respond to the title exactly as it has been presented.** Under no circumstances should the candidate immediately present a knowledge question ("my knowledge question is...") such that it appears as if the title has been replaced by it. The essay task is not about "finding" a central knowledge question to which the rest of the essay is a response; that is rather a central requirement for the TOK presentation.

In order to construct a successful response to the title, it will be necessary to establish at least tentative or partial or provisional answers to a number of related questions as the essay unfolds. For example:

"Over time, knowledge has become more accurate." Discuss this statement with reference to two areas of knowledge.

What might it mean to say that some item of knowledge is accurate? *That it is lacking in error; is close to the truth; acts as a good "map" of some aspect of reality.*

What are the key difficulties in measuring accuracy of knowledge? *That we do not have direct access to the truth; our knowledge itself is our closest approximation to it so on the face of it the required comparison does not seem to be available; that the standards by which we try to measure accuracy in different areas might not be the same.*

What are the implications for knowledge of describing it as more or less accurate? *That knowledge need not be certain; there is room for doubt; that the justified true belief model of knowledge might not be helpful; that we might have to accept and be tolerant of shortcomings.*

How can knowledge become more accurate? *Through deliberate minimizing of error; as a result of new breakthroughs; or from cumulative work; through the construction of a new "map".*

Which areas of knowledge appear, at a glance, to have become more accurate, and which not? *The sciences seem to demonstrate increasing accuracy while the same claim might be more difficult to sustain with the arts; might need to take into account shifts in the objects of study in some areas such as the human sciences.*

What kinds of development of knowledge might not count as increasing accuracy? *Maybe just more knowledge; or filling gaps between items of knowledge that are already highly accurate...*

[The above is for illustrative purposes only and is not offered as a model approach to this title.]

Ideally, such questions and the discussions that they inspire can be organized into a logical sequence such that they form the backbone of the essay – each contributing to the overall answer to the prescribed title. The content of each paragraph might constitute a response to one of these questions. Hence such knowledge questions can act as markers in the development of the argument and pave the way from title to conclusion. As described here, the identification or formulation of these questions can play a crucial role in the exploration and planning phases of the essay task, and when the final essay is constructed it may not be necessary or desirable to the flow of the arguments for the questions to be stated explicitly. A

sequence of paragraphs each prefaced by “my next knowledge question is...” does not read well and is likely to appear disjointed.

So, in summary, knowledge questions are NOT “alternatives” to the title, and they are best thought of as aids to the exploring and planning processes such that they become woven into the analysis but not necessarily stated explicitly in the final essay.

It is possible that the numerous knowledge questions presented in some recent subject reports have contributed to the misunderstanding that candidates should “find” their own knowledge question right at the start (even though the reports themselves never suggest that this is what the candidate should do), or indeed fill their essays with knowledge questions and then mostly ignore them thereafter. The prominent inclusion in recent subject reports of specific knowledge questions related to each prescribed title has been with the intention of promoting an understanding of what they look like. Perhaps what was missing was an explanation of the way in which they can be made to relate to one another so as to underpin an entire analysis – this is what the exposition above is designed to address.

Key Points

- While there is a great deal of choice available to the candidate in terms of alternative titles and parts of the TOK course that can legitimately be explored within the one title that is chosen, the exact wording of the title must be respected and examined very carefully.
- Writing “my knowledge question is...” near the start of the essay is usually a recipe for disaster as it means that, in effect, the title has been displaced.
- Knowledge questions should be thought of as way-stations on the journey to an answer to the prescribed title – useful in explicit form while exploring the title and planning a response to it, but not necessarily stated explicitly in the final text.
- Possible knowledge questions have been excluded from this report, but they can be found in the corresponding set of examiner preparation notes for this session.

The role of ways of knowing

At the last course revision, the number of ways of knowing included in the subject guide was increased from four to eight. The rationale for this change was not to boost the relative contribution of ways of knowing to the course but rather to emphasize that the set of attributes available to the quest for knowledge is more complex and interactive than was previously suggested by the more restricted suite of four (see TOK subject guide, pages 8 and 27). In the spirit of this change, teachers and candidates are strongly encouraged to be very circumspect about treating ways of knowing in isolation. Unfortunately, it seems that many schools still take precisely this approach to TOK, with an extended tour of ways of knowing before addressing other aspects of the course. A consequence is that a selection of ways of knowing is often “laid on the table” at the start of essays in a way that does not prefigure sound analysis. Examiners often find themselves reading something like:

“In this essay I will be focusing upon the human sciences and history as areas of knowledge, and my ways of knowing will be intuition and memory.”

While most titles do require a clear statement of areas of knowledge to be addressed, there is no corresponding expectation for ways of knowing (except perhaps for the minority of titles which take ways of knowing as the main focus). A definitive identification of them at the start of the essay is often unnecessarily limiting for the subsequent analysis.

Because of how the course is presented, and because of seemingly widespread practice of affording ways of knowing a privileged position in course structure, there is a strong tendency for candidates to treat ways of knowing as the primary elements of TOK analysis. This leads to a number of serious issues. Firstly, candidates tend to invoke them as “answers” rather than starting points for analysis, as if naming them were enough. The precise nature of emotion or imagination, for example, is often not considered worthy of attention. Many candidates write about how ways of knowing are “used” as if they were ingredients that ought to be “baked” together in order to generate various forms of knowledge. This is simplistic at best, and highly misleading. A deep understanding of the role of ways of knowing leads to the insight that just because a particular way of knowing is used to justify a claim does not guarantee that it is knowledge. It is how ways of knowing are used that supports knowledge claims.

Secondly, the effort to make ways of knowing fit with what is understood about various areas of knowledge produces some spurious connections and rather artificial constructs – we learn, for example, from many essays that history is somehow an outgrowth of memory, thus neatly sidestepping the actual role of the historian. Ways of knowing tend to be forced into the analysis in places where they do not and cannot enlighten. Sometimes they are mentioned seemingly just for the sake of making sure they are “name-checked” in the essay even though they provide no insight at all:

“Through sense perception I observed the motion of the planet...”

“With the help of reason, I reached my conclusion...”

“Using language, I read the historical account...”

One examiner expressed his frustration with the treatment of ways of knowing as follows:

The role of ways of knowing in supporting knowledge claims continues to be extremely weak. Most of them are mentioned at the start and then almost forgotten or treated superficially: the idea of ways of knowing as an interconnected system has still not found its way into the minds of many students.

The most recent subject guide gave pride of place to a set of knowledge frameworks that were designed to provide appropriate tools for TOK analysis (see TOK subject guide, page 28 onwards). While ways of knowing are frequently mentioned within these frameworks (particularly in connection with methodologies), the promotion of the frameworks was a response to some of the problems described above that stem from the limitations in the competence of ways of knowing to achieve successful TOK analysis on their own. Teachers are strongly encouraged to consider shaping their treatment of various parts of the course through the use of the framework tools. While the subject guide states that the knowledge framework is not compulsory, neither are the ways of knowing required to form the foundation for addressing many of the prescribed titles.

Key Points

- The subject guide makes it clear that ways of knowing almost always operate together, and this should be reflected in the approach taken to them in essays.
- The great majority of current prescribed titles invite candidates to select and indicate the areas of knowledge to be explored in the essay, but, as a rule, no similar imperative applies to ways of knowing in these titles.
- Offering an explicit selection of ways of knowing at the start of the essay tends to undermine the claim above that they work together.

Areas of knowledge, knowledge production and learning

As (a) TOK is a course about knowledge and knowing, and (b) knowledge is a human construct, it is important to be clear about the relation between the two in TOK work. Discussion of how knowledge is produced by expert practitioners in subject disciplines is a central aim of the TOK course, but there must also be room for the exploring the ways in which other groups and individuals, such as the TOK student, come to know.

Phrases such as “the production of knowledge” (e.g. May 2017 title 4) or “knowledge produced” (e.g. May 2017 title 1) give a cue that there should be an emphasis on the former:

“In the **production of knowledge**, traditions of areas of knowledge offer correctives for ways of knowing.” To what extent do you agree with this statement?

“It is only **knowledge produced** with difficulty that we truly value.” To what extent do you agree with this statement?

Whereas “the acquisition of knowledge” (e.g. November 2016 title 1) allows for more latitude:

The **acquisition of knowledge** is more a matter of recognition than of judgment.” Evaluate this claim with reference to two areas of knowledge.

One reason why the distinction between shared knowledge and personal knowledge was introduced was to draw attention to the need for balance in this respect.

With regard to the comparisons between areas of knowledge that are so important to TOK analysis, examiners sometimes lamented a seemingly ingrained prejudice for and against particular areas. A key ingredient is the notion of discipline as a systematic and rigorous set of practices and norms by which knowledge is both produced, understood and organized. With regard to choices of areas made by students, one bilingual examiner concluded:

“Students usually mentioned which areas of knowledge or disciplines they were going to treat at the beginning of the essay. Mathematics and natural sciences were common, as were economics and psychology from the human sciences, as well as the arts.

Ethics had a lower profile and was seldom selected – candidates seem not to understand well its nature and the key features of its knowledge claims. Many candidates in the Spanish essays decided to choose indigenous knowledge systems as an area to develop their work.

There remains a strong and unjustified tendency to treat claims in history as subjective and historians as biased experts.”

Key Points

- Candidates are advised to look carefully at the wording of prescribed titles in order to ascertain what kind of engagement with knowledge is being elicited
- Candidates should consider “home advantage” in the selection of areas of knowledge – there is a danger of thinking that one understands more than one does in areas that are unfamiliar to candidates beyond the TOK course.

Aspects of essay content

A perennial complaint from examiners concerns the use of definitions. Typical comments are as follows:

“Dictionary definitions for key terms are rarely helpful; they are not nuanced or rich enough, nor do they suggest that the candidate has spent at least 100 hours discussing knowledge, theory, truth, etc. Since these definitions usually appear at the very beginning of the essay, greater care should be taken to create a better first impression than one can achieve with a definition from dictionary.com.”

“There is a strong tendency to use dictionary definitions that are usually very general, ineffective, and not sufficiently unpacked as to establish discriminations or necessary nuances in relation to the selected AOKs. The key terms do not necessarily mean the same in all areas of knowledge. In essays written in Spanish there is a habit of starting the introduction at a very high level of generality with sweeping and obvious statements.”

Candidates’ employment of examples is also a matter worthy of comment – in particular with respect to their variety, their length and the degree to which they buttress the arguments being made.

On the first point, a wide variety of examples was on offer in essays, but a preponderance of a particular group of them drew some concerns among examiners. Some examples appear with great regularity but, with some additional thought, could have been substituted by others that would function at least equally effectively, and perhaps have offered additional insights. Many examples have much potential when they have been mastered by candidates and applied in situations where they support or illustrate the exact claims being made about knowledge. Unfortunately, this is often not the case.

Some examples stem directly from candidate experience in other DP components, and as such are to be welcomed as evidence for a primary aim of TOK in action. However, there may be other such points of contact across the Diploma Programme that could also be exploited. Candidates often included their own experiences with extended essays and internally assessed tasks, and this is to be encouraged as long as they are described in enough detail to illustrate the claims at large.

Examiners are aware that the ideal of the TOK essay as the culmination of the student's personal adventure to date in knowledge is perhaps unrealistic for many candidates on grounds of the limits of personal experience or motivation, but it must be pointed out that the constraints imposed by these factors can be exacerbated by the temptation to rely on external sources designed specifically to “help” with the task. As there is a finite quantity of such material available, shared patterns of essay structure and content across schools often become evident to examiners. If a candidate's first move is to search the internet for material that responds directly to a prescribed title, there is no way back from the “contamination” of thought that has occurred, and the short-circuiting of the process of internalization often leads to correspondingly poor work. Teachers are strongly urged to lead their candidates to formulate a personal and independent response to a title before allowing the wider world into the task that lies before them.

“Well-travelled” examples this session included, just to name a few, van Gogh's *Starry Night*, Einstein and Lorentz on the existence of the ether, John Maynard Keynes and Milton Friedman, Davson-Danielli and Singer-Nicholson models of membrane structure, Frida Kahlo, spontaneous generation and Louis Pasteur, Alexander Fleming and penicillin, Edward Jenner and smallpox, the three perspectives on the Cold War. As mentioned in every subject report, there is nothing in principle wrong with any of these examples – what is important is that they are used where the point they make is effective and when care is taken with factual accuracy. At the same time, examiners are human and are likely to appreciate the effort to engage fresh examples, and teachers can play a role in encouraging this.

On the second point about length, one examiner noted:

“Candidates are well aware of the need to provide examples to support their arguments. The main problem is that they still tend to be more descriptive than analytical. Long examples describing the story of the atomic model from Democritus to Bohr were used again and again. Extensive accounts of the orthodox, revisionist and post-revisionist views of the Cold War were frequently used in history as well as poor and ineffective examples on Nazi/Hitler regime.”

Candidates are advised to consider whether the number of words used to convey an example is a good investment in terms of bringing the analysis forward.

In relation to the third issue of relation to argument, one examiner explained:

“Entire arguments are sometimes built on an arbitrary selection of examples – some to support and some to refute – but isolated examples, no matter how compelling, cannot support categorical argument alone. There is a tendency to say at the end of the example: “this example shows... X”. That may be the case, but too often it is not as self-evident as the candidate suggests. Each example points to little beyond itself unless the argument in which it is embedded can make the case that the example is representative in ways that are too seldom made explicit. There needs to be greater care given to drawing explicitly the connections between example and argument. Arguments often run along these lines: ‘Here is an example of a simple explanation; here is an example of a complicated one. Clearly the simple one is better, so this shows that all simple explanations are better.’”

Key Points

- Candidates are strongly advised to resist the temptation to search for responses to prescribed titles on “help” sites or elsewhere as, once accessed, they contaminate the candidate’s thinking and cannot be “unthought”.
- Dictionary definitions often do not provide helpful guidance for the direction that should be taken in constructing an essay.
- Some examples are inherently ineffective because they are simplistic and cannot support the quality of analysis that is required in TOK.
- Some examples are ineffective because they are described at length and without sufficient regard for their contribution to argument.
- Some examples are employed ineffectively because they do not support the point being made or because they are described without due care for accuracy.
- Some examples have their origins in other Diploma Programme components, and these should be generally encouraged.
- Fresh examples are more likely to be effective, but even relatively common ones can work well if they are used with respect for their nature.

Feedback on specific titles**1. Is the value of knowledge related to how easy it is to access? Develop your answer with reference to two areas of knowledge.**

There were quite a wide range of interpretations of this title that could lead to a successful outcome. While perhaps the most obvious meaning of “access” was that the knowledge could be located by the knower, many candidates seemed to prefer the notion of accessibility referring to the capacity of the knower to understand the knowledge. It was expected that more candidates would expand upon the former interpretation by exploring how new technologies have increased access, but, nevertheless, alternative approaches were often valid.

The tendency to attach the concept of value to that which has a clear practical purpose often got in the way of the consideration of how access might be an important contributor, and, in some essays, this issue developed into the starting point for a digression into all the factors other than access that might affect value. Although the conclusion that access is not related to value is a legitimate one, it must be reached through an examination of those two variables and not by trying to establish a relationship with some other variable. In any case, the latter approach would not be logically sound.

While acknowledging the influence of individual or group differences on that which attracts value, successful candidates went far beyond this rather mundane observation in order to explore both access to knowledge as a facet of learning (knowledge acquisition) and access to knowledge as a part of research (knowledge production). They were able to amass a balanced response that included situations in which increased access boosted the value of knowledge, and those in which it was diminished. Certainly, there are times when many of us do value something that was difficult to achieve, find, discover or understand (sometimes this even leads us to restrict access to others on commercial or espionage grounds), but there is also an

argument to be made that easy access can in some circumstances undermine the respect that knowledge might otherwise attract.

2. “Every theory destabilizes as much as it solidifies our view of the world” (Nathan Jurgenson). Discuss.

In many essays on this title, difficulties with key terms and their relations were evident. The term “theory” has a well understood meaning in relation to academic work, and if candidates wish to stretch its ambit further then a case has to be made for doing so. The term “view of the world” was often either ignored or apparently assumed to be self-evident. Most concerningly, a significant number of candidates took the terms “destabilizes” and “solidifies” as applying to theories rather than the view of the world – thus reducing the scope of the essay to the effects of theories on themselves.

More aware candidates took “view of the world” to constitute the state of the area of knowledge or discipline in which the theories under consideration belong (the dominant perspective among practitioners), while the top candidates succeeded in sketching out how the theories can have a profound effect on the wider intellectual environment. A further common problem was a failure to indicate exactly to whom the pronoun “our” might refer in the examples offered.

Some candidates took a literal interpretation of the title by emphasizing the word “every” in it, and proceeded to document the way in which a single theory can both disrupt and strengthen views of the world under different circumstances. A common approach was to look at Kuhn’s ideas about paradigms as a model for the destabilization-solidification process.

A small number of candidates insisted on sharing details about Nathan Jurgenson in their essays. Perhaps it is worth reiterating here that in this context we are not interested in what the author of a quotation might have been thinking; we are only interested in what it might mean in relation to the rest of the prescribed title as set.

3. “Over time, knowledge has become more accurate.” Discuss this statement with reference to two areas of knowledge.

This was a hugely popular title. While candidates had little difficulty in giving general or abstract definitions of “accuracy”, very few were able to discriminate between the different meanings of accuracy according to the areas of knowledge chosen. It was disappointing to see so many candidates choosing the natural sciences and then treating accuracy and precision as synonyms – this is an example of basic material required elsewhere in the Diploma Programme failing to make the transfer to thinking in TOK. Surprisingly large numbers of candidates allowed themselves to get bogged down with rumination on the nature of time, or treated time as a sort of palpable “force” that was somehow applied to knowledge. Perhaps this can be put down to language issues.

A number of candidates tried to reconcile the platonic definition of knowledge with the claim in the title – with predictably convoluted results. Too often candidates fell back on the strawman of “absolutely certain” or “absolutely correct or true”. With this title, relative relationships mattered. So, the argument that there is no progress because nothing can be known with certainty cannot stand. Still it was an approach that some candidates took. Additionally, many candidates seemed compelled to go down the road of simply summarizing all the ways that knowledge

production can go wrong. All the mistakes made in history or science don't change the fact that greater accuracy is apparent – a point which many candidates eventually conceded in their final paragraphs. Too many candidates failed to see that the very mistakes they were so painstakingly cataloguing did in fact lead to greater accuracy.

Better essays focused on the role of technology in improving accuracy and treated the historical development of knowledge with subtlety and awareness of the various possible trajectories of that development. Top essays wrestled with the problem of measuring accuracy given that our best shot at knowing the truth is the knowledge that we actually possess.

4. Areas of knowledge have methods for testing and supporting knowledge claims. How can we know that these methods themselves are reliable? Develop your answer with reference to two areas of knowledge.

This title presented two different parts: a claim and a question. Both in English and Spanish, many essays exhibited a lack of awareness of the difference between methods for testing knowledge and methods for supporting them. While the word “methods” was used in candidate work, too often the nature of the methods was not properly sorted out.

For the most part when talking about methods candidates referred only to the scientific method, presumably because it has the word “method” in it. But, when talking about history or mathematics or the arts, neither specific methods or processes were always clarified adequately. This led to a proliferation of essays that dealt with some measure of success with the technicalities of reliability in science – to do with producing results that are consistent and replicable, etc. – but exhibited much less success in establishing a comparison with methods in other areas. Sometimes, in the midst of their flow, candidates forgot that the title was about methods rather than outcomes.

Some candidates got sidetracked by a discussion of the circumstances in which a method is not reliable rather than addressing the issue of knowing how it is reliable or not – leading to the lament near the start of this report that too many candidates never emerge from a negative mindset with respect to knowledge in TOK. Accordingly, few essays focused on how we could judge or evaluate the reliability of different methods. As with title 3, this required at least an acknowledgement that there appears to be a fundamental problem – this time the need to avoid the apparent circularity of using a method to determine the reliability of itself. In grappling with potential solutions, able candidates looked at triangulation and ways of integrating methods so that a judgement could be made about each of them in the light of the others.

5. “The simplest explanation is the best explanation.” Discuss this statement with reference to two areas of knowledge.

This title seemed to present a very straightforward claim for analysis, but many candidates found difficulties along the way. There was often slippage from “explanation” into other related concepts, and while the inclusion of theories and models, for example, as explanations is legitimate, it should nevertheless be preceded by some brief justification.

The emphasis for many candidates was on their personal classroom experiences with various teachers. It was relatively rare for the candidate to move the discussion into the more formal production of knowledge across the disciplines. Hence much was made of explanations tailored

appropriately to stages of school education, and sometimes to the employment of explanations that are literally untrue for purposes other than the advancement of knowledge, such as children's fairy tales.

Almost every essay on this title cited Occam's razor, but sadly the nuances of this device were not always accurately appreciated by the candidates. Nevertheless, more successful candidates were able to distinguish between situations in which simple explanations were the most insightful and penetrating, and those in which such explanations glossed over important aspects of the issue under consideration, and hence obscured valuable knowledge.

6. "The production of knowledge seems to require creativity at every stage of the process." Discuss this statement with reference to two areas of knowledge.

Responses to this title required a robust attempt to unpack the concept of creativity. This was not so often fully achieved. Many candidates equated creativity with imagination, failing to take into account that the title sets creativity in the context of production (of knowledge). So imagination on its own is not sufficient. Shifting the focus exclusively onto imagination (or sometimes intuition) also brought to the fore some perennial difficulties of writing about ways of knowing in isolation. Weaker candidates made no effort to decompose creativity into something more tractable, and simply wrote unhelpfully about how "creativity was used" in certain situations.

In addition, the successful candidate had to try to identify distinct stages in the process of knowledge production in the selected areas of knowledge. This was a challenge – particularly in some areas such as the arts and religion – and some of the suggestions appeared a little contrived. Still, making the attempt was always better than not doing so, and some candidates managed to produce a coherent account of how creativity might slot into the processes. More sophisticated responses indicated how some stages in knowledge production might or might not involve creativity, but that this variance militated against the strong claim that it was always required.

Section 2: The presentation

Component grade boundaries

The following boundaries were applied for this session.

Grade:	E	D	C	B	A
Mark range:	0 - 2	3 - 4	5 - 6	7 - 8	9 - 10

General

Thanks are extended to the 23 examiners who moderated the TOK internal assessment component. The TOK presentation is moderated through the TOK presentation planning document (TK/PPD) and uses dynamic sampling.

All samples are allocated randomly and teachers must ensure that the TK/PPD does not include school information or candidates' names or numbers. Unless all samples are requested (for schools with a small candidature), teachers must take care to upload just one TK/PPD of a given presentation in their sample. If two or more candidates in the sample are from the same group, IBIS has an option to upload an alternative candidate with a similar mark. Please read the relevant sections in the *Assessment Procedures* document.

There was quite a range in the quality of the TK/PPDs viewed by examiners. At the top end, the TK/PPDs reflected a solid understanding of the nature of the TOK presentation. Many candidates had well-formulated real-life situations and knowledge questions.

At the other end, there were TK/PPDs which started badly because they did not have concrete and significant real-life situations and their knowledge questions were poorly formulated or were not knowledge questions at all.

In cases where marks are not confirmed, examiners must write IA Feedback for the relevant school, so the school knows what is missing or incorrect. Advice is offered but some examiners noted that the same recommendations had been given in the IA feedback two or even three times in previous sessions, but the schools have not heeded the advice and have continued to make the same mistakes.

Very worryingly, and this is particularly the case in Spanish, there were many TK/PPDs which did not show evidence of any TOK thinking, nor that a TOK course had been followed, but high marks were awarded by the teacher.

Once again it is recommended that where marks have been moderated significantly, schools take a more pro-active role and assume greater responsibility in the professional development of their TOK teachers.

Key Points

- TOK moderation uses dynamic sampling.
- Attention must be paid to IA Feedback.
- Teachers and their students must ensure that they have a clear understanding of the requirements of a TOK presentation.

Comments regarding the completion of the TK/PPD

Examiners see the content of a presentation through the TK/PPD and teachers and candidates must remember that when completing the TK/PPD it must be clear to a third person. Some TK/PPDs are completed properly and make good use of the structure which it provides. There are, however, too many TK/PPDs which have evidently been completed in a hurry and seemingly, after the presentation took place. It is a planning document, so it should not be written in the past tense. As the name suggests, the document must be used to plan the presentation prior to its delivery.

The following are some strengths and weaknesses seen in TK/PPDs this session:

The real-life situation, the knowledge question and their connection

Most candidates described their real-life situations well. These were identifiable events that did not require lengthy descriptions. Real-life situations often used topical themes and it was pleasing to see the application of TOK concepts to real situations of significance around the globe. Weaknesses were found where more than one real-life situation was described; where it was a topic rather than a situation; or where it was a hypothetical one.

A very large number of candidates are grappling well with the concept of the knowledge question. Where they were weak, the questions were so broad that it was not possible to see what they had to do with the real-life situation; or they were too embedded in the subject or discipline. Many of those questions were simply first order questions. Some knowledge questions were so complicated and included so many elements that it was impossible for the candidates to answer them.

Candidates should avoid abstract contexts such as ‘how do we perceive reality?’ (and ensure that it is clear whether they are talking about sense perception or not) or ‘can knowledge be reliable?’ The latter would have been improved with the inclusion of an area of knowledge. There is a misapprehension that including an area of knowledge in a knowledge question restricts it as a knowledge question. A look through the examples of knowledge questions in the TOK guide will show that that is not the case, and often the presence of an area of knowledge in a knowledge question will help focus the question. It will still be open, general and about knowledge.

Some candidates continue to struggle to explain the connection between their real-life situation and knowledge question and tend to repeat the real-life situation. In those cases, by remaining in the situation, the outline which follows was also usually first order.

Outline and conclusions

Some candidates' outlines were succinct and presented a persuasive exploration of the knowledge question. It was clear that those candidates were fully aware of what was expected of them according to the assessment instrument.

In weak outlines, ways of knowing, areas of knowledge and TOK vocabulary were often absent and there was a lack of reflection about the implications of the analysis. As one examiner put it with a specific example: *"old favourites abound, for instance, the impact of emotion on reason. It is usually left at the claim that 'emotion impacts reasoning' which lacks a genuine consideration of whether this affects the construction of knowledge or how it might affect it in the context of an area of knowledge"*.

The outline must have content. Other examples of weak outlines were those which had purely structural comments such as 'now I will address the knowledge question', which are not informative, or outlines that simply listed some headings.

This session there were several candidates, in both English and Spanish, who chose decision-making as the focus of their presentations, particularly linking decision-making with WOKs. This is possibly because of examples found on TOK sites and the Internet. In most cases decision-making was limited to an individual's decisions outside the context of knowledge. As one examiner put it, *"had candidates started with methods of areas of knowledge and considered how they could be approached in the construction of knowledge, then decisions could have been considered in a second order manner. Regarding ways of knowing, they can of course form part of a genuinely compelling or insightful analysis. But starting with a way of knowing and trying to find it in the real-life situation amounts to far too an individualistic, psychological and ultimately speculative approach."*

It is evident that some candidates are told that they must have claims and counterclaims, but they do not include them in an argument. A mere juxtaposition is of no use. As an example, the statements, *'Faith does play a role in science. Faith does not play a role in science'* will not lead to a fluid analysis nor to the level of sophistication needed for higher levels. There must be questioning. Furthermore, the mere application of an area of knowledge to some issue is not enough for top marks.

The conclusions seen in weak TK/PPDs were often clear indicators that the investigation was a first order one. Conclusions should be about the construction or nature of knowledge. Candidates rarely bothered to transfer conclusions to other real-life situations.

TOK exploration requires the use of TOK concepts as required by the assessment instrument which candidates need to consult and use. Note must also be taken of the diagram on page 63 in the guide. It shows the question which underpins a global impression judgment of the TOK presentation thus:

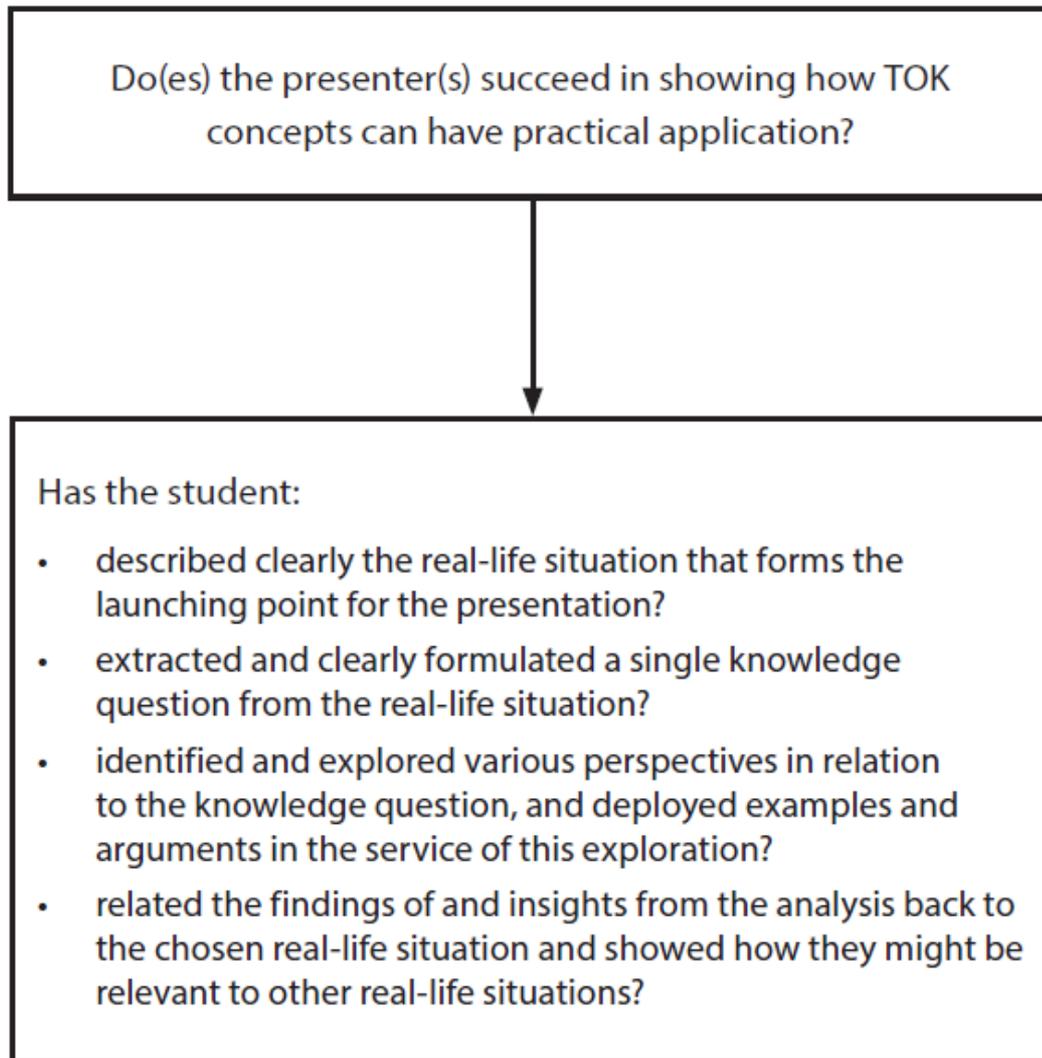


Figure 21

Teacher Section

Teacher comments which explain what determined the mark awarded were most useful.

Yet again, some Teacher Sections were left blank or were a mere copy of a couple of lines from the assessment instrument.

Key Points

- Teachers should give their students guidance regarding real-life situations and knowledge questions.
- The structure and instructions of the TK/PPD should be followed.
- Candidates need guidance and practice in developing second order arguments and in completing the TK/PPD.

Recommendations for IB procedures, instructions and planning document

Teachers need to be careful when submitting electronic marks so that they match the ones they filled in on the PPDs. Sometimes different marks are entered from those written on the TK/PPD.

All schools must use the latest version of the TK/PPD and names and candidate numbers must not be included. Several schools continue to use previous versions of the TK/PPD and this can have technical implications that cause the document to look empty when viewing on RM Assessor. This puts candidates at risk of being awarded zeros for submitting an empty document.

The Candidate Section may not exceed 500 words. Some candidates attempt to exceed this limit.

Teachers must ensure that the presentations comply with all the instructions set out in the guide, such as the maximum number of candidates in a group, the completion of the same content into the individual TK/PPDs of candidates in the same group, the requirement that the presentation must be delivered live in front of a class in the same language as registered for the subject, and not reading from a script.

Teachers must remind their students that they are only allowed to bring notes as an *aide-mémoire* and that they must not read directly out of a script. As soon as a teacher notices that there is too much reading, the candidate(s) should be stopped and given another opportunity to do the presentation properly.

Key Points

- The current TK/PPD must be used.
- Teachers must check that they enter on IBIS the same mark which is on the TK/PPD.
- Teachers must ensure that candidates follow all the formal requirements for the presentation.
- The candidate section may not exceed 500 words.

Recommendations for the teaching of future candidates

As has been mentioned before, candidates need to show TOK analysis in their TK/PPDs. For that they need to use TOK vocabulary and show evidence of second order TOK thinking.

Teachers should study the relevant parts of the TOK guide with their students to ensure solid understanding of the requirements of the presentation. This includes the assessment instrument.

It appears that many teachers have misunderstood the task required for the presentation and have assumed that the presentation is a 'presentation of the essay'. The presentation is a

separate task and there are specific instructions on the guide to explain the nature of the task. Several examples of TK/PPDs in Spanish used the candidates' prescribed titles as knowledge questions. This is unhelpful for the candidate and should be avoided. Candidates must start from their real-life situation from which they extract a knowledge question. The prescribed title, which may be a question to begin with or be converted into a question, gives them the ready-made knowledge question which may not be suitable for their real-life situation.

Most importantly, candidates who have written their essay on a prescribed title that is later used for their presentation might be at risk of malpractice for duplication of work, which is against IB Diploma Programme regulations.

Candidates also need practice in developing a second order analysis and in completing the TK/PPD. They can be helped by being required to use and complete a TK/PPD as part of their planning when doing a practice presentation.

The TK/PPD gives precise indications but many still fail to comply with the instructions and do not stop to consider how this failure to comply may impact the examiner who will moderate such a TK/PPD.

Key Points

- Candidates must be given practice in the use of TOK vocabulary and second order questions.
- Teachers and their students need to use the TOK guide and ensure they are familiar with the assessment instrument.
- The use of prescribed titles for the presentation should be avoided.