

THEORY OF KNOWLEDGE

In order to secure success for their students, schools are strongly recommended to ensure that this report is read in detail by all theory of knowledge (TOK) teachers, and the Diploma Programme Coordinator.

Teachers are also once again directed towards the IB Publication “Understanding Knowledge Issues” (on OCC) which provides clarification of the central concept of a ‘knowledge question’ (note that this document was written before the change in terminology this session from “knowledge issue” to “knowledge question”, but the terms should be understood to refer to the same concept).

Overall grade boundaries

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

Statistical Summary

	May 2015	May 2014	% change
English	63,905	61,831	3.35%
French	583	565	3.19%
Spanish	4,660	4,490	3.79%
Chinese	515	420	22.62%
German	66	52	26.92%
Total candidates	69,729	67,358	3.52%

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

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

Examiners

Thanks are extended to the 292 examiners who assessed TOK essays this session – whose individual contributions form the basis for this part of the subject report. 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 two years' 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 students.

The TOK dynamic

Successful work in TOK involves a delicate interaction between the teacher, the candidate, and the TOK curriculum itself. It is worth repeating and modifying that which was written at the start of last year's reports as an outline of the dynamic to which all stakeholders should ideally be committed.

The teacher

The effectiveness of the TOK teacher in supporting candidates requires first and foremost a mastery of the TOK course. There are numerous opportunities for professional development ranging from face-to-face to online workshops provided by the IB and other approved providers to the everyday collaboration and exchange with school colleagues that may be possible given favourable local conditions. As a basic minimum, candidates need exposure to a TOK course that follows the conceptual distinctions as they are specifically, and in some cases uniquely, articulated in TOK. Whatever the academic background of the teacher, successful TOK teaching demands a degree of adjustment that is not to be under-estimated.

Judging by the quality of some of the candidate work presented this session, it is difficult to believe that every TOK teacher has been furnished with the support that is essential for

success. In many cases, school administrators would do well to review their investment in TOK, given its centrality to the Diploma Programme and its educational philosophy, its essential curricular connections with the rest of that programme, and the fact that no one starts teaching it with tailor-made qualifications.

In addition to class teaching, the TOK teacher plays crucial roles in assisting candidates in the production of their essay and presentation (these roles are set out in some detail in the subject guide – see pages 53 and 56). It is of paramount importance that the nature of this assistance is fully understood by all teachers, and, once again, judging by the work inspected by examiners, it is not evident that this is the case. If it were so, many of the perennial complaints of examiners would be greatly diminished. It is possible to do a major disservice to candidates through both the provision of too little and too much assistance, and the problems that arise from these misjudgements are elaborated below.

The candidate

While the teacher's supporting role in assessment tasks is vital, the primary goal of these in TOK is to provide opportunities for the candidate to demonstrate in a summative manner the impact of the TOK curriculum on their experience over the period of the course. The ideal outcome is that their performance in these tasks will be the product of sustained critical and reflective thought. The best essays carry a vestigial trace of a struggle to marshal the material and display a mastery that can only be achieved through sustained engagement. While ideals are not always realized, it should nevertheless be the aim of the TOK teacher to provide the conditions in which such engagement can thrive. The evidence from this session's work suggests that there are many candidates who come to the end of their TOK course without having had the kind of experience outlined above. The reasons why this is the case need to be confronted in the longer term interests of the educational value of TOK for Diploma Programme candidates as a whole.

As usual, this report will inevitably catalogue ways in which candidates' ideal experience with TOK can fall short. Increasingly prominent among these ways seems to be, for whatever reason, a weak assimilation of TOK concepts during the course, followed by a search for pre-packaged material on the World Wide Web that will serve well enough in order to meet at least the minimum acceptable standards in the assessment (in particular the failing condition now associated with grade E in TOK). When candidates, for whatever reason, possess only a shaky understanding of what is required in the TOK assessment tasks, they are not in a good position to evaluate the worth of whatever is published elsewhere ostensibly to assist with such tasks. This point should be kept in mind by candidates and teachers alike. As always, it is hoped that the content of this report will serve to assist teachers in helping students fulfil their potential in TOK through an extended worthwhile engagement with it.

The curriculum

The sections below will once again comment on the degree of candidates' success in handling various aspects of essay writing. Of crucial import here is an accurate understanding of the concept of a knowledge question – see pages 20-21 of the subject guide for clarification). This is the central concept of the curriculum, and hence a failure to understand what is meant by the term will lead inexorably to problems in participating effectively in TOK and responding successfully to its assessment tasks.

Transfer to the new course

The nature of the specimen titles published for the new course (available on the OCC) gave a clear early indication of the importance of recognizing that the TOK course has changed. Given the invitation to grapple with **shared and personal knowledge** in one of the prescribed titles for this session, it was unsurprising to find these concepts assuming a prominent role in candidates' work. Less was heard of the **map metaphor** as a way of thinking about knowledge in a productive manner, and, while the **knowledge framework** may have been internalized by a fair proportion of candidates, its effects on the quality of analysis were not immediately apparent. It may take some time for these new tools to bed into the day-to-day TOK activity in the classroom, but it is vital that there is a universal understanding that there have been changes and there will be knock-on expectations in the tasks set for assessment. It is possible that some schools and candidates will have experienced disappointment with results if this has not been the case.

In addition, the nature of the new course – in which no areas of knowledge nor ways of knowing form compulsory components – necessitates that prescribed titles no longer reference them individually. This means that candidates need to consider carefully which of them would be most effective in responding to the generic title, and it may be that some candidates go astray at this very early stage in the business of crafting the essay. Teachers are advised to be aware of this change as it will apply to titles for the remainder of the life of this edition of the course.

In the effort to reduce the cognitive load on examiners, the **global impression instrument** for essays no longer mentions explicitly a number of features of essays that were previously flagged. These include the requirement for proper referencing, and the minimum expected length of the essay. Teachers and prospective candidates are hereby reminded of the severe penalties that adhere to the various forms of academic dishonesty, including plagiarism, on a Diploma-wide basis. An essay that fails to take proper account of the requirements for acknowledgement of sources may now possibly be classified as an academic dishonesty case rather than simply being marked down within the TOK assessment instrument itself – and thus the negative consequences may actually be greater than before.

It is also the expectation that essays that fall well short of the permitted 1600 words will be self-penalizing on the basis that they do not contain sufficient material to gain major credit. Candidates should, therefore, not imagine that very short essays will attract high scores.

It should also be noted that no allowances are now made for essays submitted on titles that do not appear on the list for the appropriate session, or on titles that have been modified from the wordings given by the IB such that they constitute different tasks. Such essays will be given a score of zero.

Key Points

- The extant TOK course is new; it is not simply a continuation of the previous one, and hence it requires some new thinking.
- There is a suite of new tools in the new subject guide – designed to assist teachers and candidates with the enterprise of TOK analysis.

- Global impression assessment is based on the idea that work is evaluated against a gradation of single holistic descriptions and not by breaking it up into components or different dimensions.
- The disappearance of descriptions of certain features of TOK work does not mean that these features now have no consequence in the assessment process.

Degree and quality of apparent teacher guidance

As in every recent session, the concern was expressed by many examiners 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, or 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.

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.
- Disturbingly large numbers of candidates seem to turn to "help" sites on the World Wide Web in order to source definitions, examples and arguments that inevitably do not otherwise form part of their own academic and life experience, and hence are not "owned" or their significance fully understood.

Treatment of knowledge questions

Problems continue to be noted by examiners with respect to the formulation and purpose of knowledge questions. Knowledge questions in a TOK essay should perform the function of stepping stones during the exploration of the prescribed title. They should arise naturally in the course of the analysis and their articulation in that role should provide added clarity to the structure of that analysis. Hence they are not to be thought of as "additions" to the essay; they are questions to which answers are necessary *en route* to an effective response to the title.

Accordingly, when a cluster of knowledge questions is merely listed in the introduction, the candidate's essay often turns out to be ineffective because the knowledge questions are not set out in the context of the relationships that need to exist between them. Alternatively, some

candidates pepper their work with numerous knowledge questions that seem to be offered as an alternative to argumentation - often no response to them is given and they sit in the text undeveloped and ignored. Most harmful of all is the temptation to identify one knowledge question at the start of the essay and subsequently treat it as the starting point for analysis rather than correctly adopting the actual title on the list as the trigger for that role. While some examiners felt that there was evidence of a tighter grasp of the focusing potential of knowledge questions within the flow of essays, others lamented that many of them seemed to have their origins in the various “help” sites on the internet that are subverting the candidates’ own process of coming to an understanding of the chosen prescribed title.

Teachers and candidates should note that the new subject guide sets out what is meant by a knowledge question (in the terminology of the new curriculum). Part of this description concerns what is meant by an “open question” (page 20):

“Knowledge questions are **open** in the sense that there are a number of plausible answers to them.”

Readers will note that many of the knowledge questions offered in the title-specific part of this report are couched ways that might appear to demand a definitive answer (“is it a good thing that...”, “is it the case that...”, etc.). Such questions could indeed be answered with an emphatic “yes” or “no”, but equally well a response might be, depending upon the specific question, along the lines of “yes but only if x is included”, “not unless y”, or “increasingly so nowadays”. It is the variety of plausible answers to the question that should be taken as the most important measure of its “openness” rather than the degree to which the formulation of the question indicates that such variety is possible. Indeed, the prefixing of knowledge questions with “to what extent...” has become somewhat of a cliché in TOK, and more successful analysis often stem from questions that are put more assertively.

Key Points

- Knowledge questions should act as stepping stones that arise naturally in the process of responding to prescribed titles.
- A raft of knowledge questions listed in sequence in the introduction lack context and hence often do not provide a clear picture of the shape of the essay to come.
- Knowledge questions used rhetorically in the main body of the essay cannot replace analysis and the attempt to provide answers to knowledge questions.
- Converting a prescribed title into “my knowledge question” is a recipe for an irrelevant response.

Treatment of various ways of knowing and/or areas of knowledge

There is little new to add to previous reports here. The first instinct of many candidates is to “translate” titles and their subsequent treatment into what might be termed “WOK speak”, in which ways of knowing are simply assigned roles in the analysis in a process that routinely involves casual generalizations about science and reason, arts and emotion, and so on. The outcome of this manoeuvre is that areas of knowledge are presented as if they were meals

prepared from particular combinations of WOK ingredients, where the natures of these ingredients are understood in advance and do not need to be examined further. In the worst cases, the analysis assumes an almost tautological form, in that it is obvious that science, for instance, involves certain ways of knowing and its description using this vocabulary is basically an empty re-formulation of the meaning of science that provides no novel insight. Competent responses to prescribed titles need to go beyond this sort of formulaic approach. It is hoped that the introduction of the knowledge framework in the new course will lead to more sophisticated accounts of the internal workings of areas of knowledge than are possible with the blunt tools of ways of knowing alone.

Once again, examiners complained bitterly about the gross misrepresentations of history that seem to have become so deeply entrenched. History is an academic discipline concerned with the study of the recorded traces of the human past; it is not the past itself, and historians are not all liars and “victors” in military conflicts; neither are they necessarily journalists or politicians or other people with a parochial axe to grind.

It is sadly still necessary to point out that “perception” in TOK does not mean “point of view”, and that ethics is an area of knowledge in its own right - it may have close links with religion but is not synonymous with it, nor is it concerned exclusively with matters of etiquette.

Key Points

- Ways of knowing are almost never effective if treated as the sole “building blocks” of analysis.
- History is a type of academic enquiry carried out by professional historians; the word must not be used synonymously with “the past”.
- Although nominally absent from the subjects available in the IB Diploma Programme, ethics is a well-established academic discipline that requires an understanding of its scope and key concepts if it is to be treated well in TOK.
- In TOK, “perception” does not mean “point of view” (hence the use of the term “sense perception” in the official TOK literature).

Use of examples

In previous subject reports, complaints have been made about the use of hypothetical examples. In recent sessions, examiners have noted a trend away from them. Unfortunately, they seem to have been largely replaced with a suite of real examples that exhibits troubling uniformity. This tendency is observed across schools as well as within them, which speaks to the fact that many of these examples have come from a relatively small range of sources that have been mined by large numbers of candidates. Examiners noted a lack of fresh material, lamenting that candidates are “ignoring much of the potential of their own heritage” or experiences within their own school learning. Examiners attending to responses this session were once again regaled repeatedly with similar examples, which included those below.

Prescribed title #1

- The work of Elizabeth Loftus and John Palmer on the effect of the wording of questions

- The question of when World War I started with reference to the assassination of Archduke Ferdinand
- The Rape of Nanking and the disparity of questions that are asked in China and Japan
- The original and modified formulations of the question for the Scottish independence referendum of 2014
- Deciding how to measure the rate of photosynthesis in a leaf (as an example of having to choose a question to investigate)

Prescribed title #2

- Edward Jenner's pioneering work on immunology involving both observation and experimentation
- Alexander Fleming and the discovery of penicillin (as an example of observation, although strangely sometimes as an experiment – illustrating how “help site” examples can easily be misconstrued)
- Louis Pasteur and the experimental refutation of spontaneous generation
- Malcolm Gladwell's account of the *kouros* statue in the Getty museum – as an illustration of the power of intuition as a different way of knowing
- The work of Thomas Edison and Albert Einstein as different examples of the use of imagination as an alternative to observation and experimentation
- Thought experiments – often described using the German term “*Gedankenexperimente*”

Prescribed title #4

- Albert Bandura's “bobo doll” experiment interpreted as an example of the influence of shared knowledge on individuals
- Solomon Asch's classic experiment on conformity (and Stanley Milgram on obedience, and Philip Zimbardo on situational factors in the Stanford prison experiment)
- Vincent Van Gogh's “Starry Night” as an illustration of the ambiguity relating to artist's intentions and audience interpretation
- Female nudes painted by Renaissance masters as illustrations of the power of shared cultural and aesthetic standards that influence the work of individuals
- Nazi art as an example of the way shared knowledge can sometimes undermine moral rectitude

Prescribed title #6

- The Heaven's Gate mass suicide as example of the dangers of "knowing" one's meaning and purpose
- Abraham Maslow's hierarchy of needs
- Various convoluted accounts involving Alan Turing and the "purpose" of his life to acquire "meaning" – presumably from the Enigma cypher!

While many of these examples are interesting and are unquestionably relevant to prescribed titles this session, it is their ubiquity on a global scale that is so troubling (the lists may appear long and diverse but they need to be set in the context of the assessment of about 70,000 essays). It is easy to conclude that at some point in the journey from the TOK classroom to the final essay submission, be it from the teacher's lesson planning or the candidate's search for suitable material, personal thought and reflection has given way to expediency. Although Alfred Schopenhauer might have taken his argument too far, there is merit in quoting here his dictum that "It is dangerous to read about a subject before we have thought about it ourselves... When we read, another person thinks for us; we merely repeat his mental process."

Key points

- Hypothetical examples are almost never convincing when offered as support for assertions in essays.
- Examiners greatly appreciate effort by candidates to use examples that arise naturally from their own experience.
- Candidates whose examples match those to be found on TOK "help" sites, or in other online discussions specifically concerned with the task of the TOK essay, struggle to demonstrate a mastery of them, and trigger suspicion in the minds of examiners as to the provenance of the work as a whole.

Treatment of key terms in titles

Many candidates consider "knowledge" itself to be a key term in their work, regardless of the prescribed title chosen. Naturally, this is appropriate in a course called Theory of Knowledge, but the outcome is that large numbers of candidates feel unable to avoid claiming in their first paragraph that knowledge means justified true belief. The overwhelming majority of these candidates then have neither any further comment to offer about this definition nor how it might impact what they write in the rest of the essay. As with most definitions, this one tends to close down discussion rather than provide a platform for exploration of knowledge questions, and is so narrow that it makes treatment of large swathes of the TOK curriculum extremely difficult. The new TOK course exhorts teachers and students to take a different approach to the concept of knowledge with the express intention of avoiding these unnecessary and debilitating problems (see new subject guide - page 16).

The unpacking process that needs to be undertaken as a first step in appraising any prescribed title often seems to be very badly handled (please refer to the new subject guide once again - page 53 for an outline of the essay-writing process that is not only recommended but may be

subject to interrogation during final essay upload). Perhaps encouraged by previous educational experiences, candidates find it extremely difficult to resist instantly turning to a dictionary for support, even when the terms under consideration are familiar to them and are cognitively accessible. A true conceptual approach recognizes that there is always some "wobble room" within which the meaning of key terms can flex - allowing, within limits, the relationships between those terms to assume different and interesting forms. Such is the foundation upon which a successful analysis can be built.

The teacher has a crucial and subtle role to play in making this foundation possible - there is a need to model this process and emphasize its crucial impact on the final product. At the same time, it is important to recognize the difference between key terms and other connecting words in the title that do not merit lengthy discussion – thus avoiding an overly pedantic approach. This also often requires teacher guidance.

Hampered by a failure to complete the unpacking stage satisfactorily, many candidates stumble onward toward exploration and planning phases that have no secure foundations (or toward writing the essay without rigorous exploring or planning either).

Key points

- Definitions can close down the kind of analysis encouraged in TOK rather than enable it.
- Offering definitions for key terms and then ignoring them is a waste of words.
- "Justified true belief" is an unsatisfactory definition for knowledge in the context of TOK that is not well suited to an inclusive approach to knowledge questions.
- Unpacking and exploring prescribed titles (and planning the essay structure from the exploration) are key steps in the TOK essay task that require thoughtful and measured support from teachers.

Overall crafting of essay structure

Shortcomings in this area include:

- An obvious lack of proof reading, or seemingly inappropriate proof reading with track changes left visible that suggest that teachers may have micro-edited the text
- A paucity of paragraphs and/or poor transitions
- Essays submitted that are beyond the permitted 1600 word limit
- Essays that get mired in linguistic analysis at the start

Quality of analysis

As always, examiners cited this aspect as the most challenging aspect of the essay task, and often the least satisfactory in practice. Many essays are riddled with generalizations rather

than evidence of close attention to specific claims, with descriptions of processes rather than a focus on the mechanisms that might bring them about, and rhetorical questions intended to stand in for the analysis itself. It is not uncommon to see candidates bogged down in definitional squabbles that prevent the essay from reaching any satisfactory point of departure.

As with the construction of an exploratory essay at the macro level, the construction of requisite argumentation at a more micro level is a skill that needs to be taught, modelled and practiced.

Factual Accuracy and Acknowledgement of Sources

Just a few points here:

- Candidates need to be reminded of the need to connect claims in the essay with references at the end through the use of citations; otherwise the requirements of academic honesty are not fully met.
- As the TOK essay is intended to provide an opportunity for the candidate to set out her own thinking, essays that rely heavily upon acknowledgement of teachers' notes may be looked upon with some suspicion.
- Bulky footnotes should be avoided – especially if they are an obvious attempt to circumvent the word limit.

Presentation of Work

Yet again, candidates and schools are asked to observe the following requests in order to assist with the assessment process:

- Ensure that candidates use DOUBLE SPACING and a font size of 12
- Use a 'standard' font such as Times New Roman, Calibri or Arial
- Use default-sized margins without any added border
- Write the prescribed title at the start of the essay as stated on the list
- Avoid adding a paraphrased or otherwise altered version of the prescribed title
- A cover page from which the candidate can be identified by name or candidate number must **not** be used
- Take note of the 1600 word requirement for the TOK essay – the actual word-count must be entered when the essay is uploaded

Despite the request for double-spacing that has been repeated in every subject report over recent years, many candidates and schools are still not complying with this simple measure. Single-spaced essays create significant and totally avoidable difficulties with the marking – many examiners find them hard to read and they create difficulties with the insertion of comments that aid the assessment process. It is strongly recommended that teachers spread

the word that candidates who insist on presenting work in this fashion are doing themselves no favours with examiners.

Feedback on Specific Titles

1. There is no such thing as a neutral question. Evaluate this statement with reference to two areas of knowledge.

Seven examples of knowledge questions that *could* be addressed in the development of an essay on this title:

- On what basis can we decide whether a question is neutral or not?
- Does the unavoidable choice of words in a question make neutral questions unattainable?
- Do neutral questions/enquiries promote the acquisition of knowledge? Are there circumstances in which they might hinder knowledge acquisition?
- What values are embodied by the attempt to ask neutral questions?
- What does the nature of the questions asked in an area of knowledge tell us about that area of knowledge?
- How do various ways of knowing influence the types of question that can be asked?
- How do language, concepts and methodology affect the neutrality of questions asked within an area of knowledge?

Most candidates who selected this title forged an immediate oppositional link between neutrality and bias, with the latter term already appearing in many essays within the first couple of sentences. It should be noted that “bias” is often a problematic term in TOK as it loses all useful meaning when treated as an inevitable state of affairs, or indeed when used to imply that it is possible somehow to be completely “unbiased”. The negative connotation of “bias” (and a corresponding positive connotation of “neutral”) easily infected the rest of candidates’ analyses before sufficient reflection on a title of this kind had taken place. In addition, candidates often found it hard to focus clearly on the idea central to the title – namely that questions may or may not be neutral rather than just declarative knowledge claims. This tendency skewed many responses in unhelpful directions.

Very few candidates seemed to understand that previous knowledge, rather than acting as a source of undesirable “bias”, can assist in the enterprise of asking the right questions – questions that are designed to maximize the chances of building upon what is already known. In the terms of the title, such questions are not “neutral” but rather primed in helpful ways, and play an indispensable role in the construction of knowledge, which would otherwise be a sort of random scattergun affair.

Some candidates restricted themselves to an analysis of linguistic matters and missed the invitation provided by the title to focus on knowledge itself. There was much confusion about

the sorts of answers that can be provided to neutral or non-neutral questions, ranging from one definitive answer to an infinite range. The lack of clarity about this issue often radiated out into the treatment of various areas of knowledge, in which mathematics or science was routinely contrasted with history or ethics. Altogether, the title failed to elicit nuanced responses from most candidates, and this failure often seemed to stem from insufficient unpacking of the key term “neutral” at the start of the process of producing the essay.

2. “There are only two ways in which humankind can produce knowledge: through passive observation or through active experiment.” To what extent do you agree with this statement?

Seven examples of knowledge questions that *could* be addressed in the development of an essay on this title:

- What is the relationship between observation and experiment?
- Can observation ever be passive? If not, does this imply that objective knowledge is impossible?
- Can introspection and reflection count as types of observation? If so, does this permit a role for observation in every area of knowledge?
- Can activities that are unplanned or lacking a clear prior purpose count as experiments? If so, does this permit a role for experimentation in every area of knowledge?
- Do observation and experiment have roles in the production of personal knowledge?
- What ways of knowing are especially involved in observation and experiment? Are they involved in other ways of producing knowledge?
- What other ways of producing knowledge might be suggested, and on what basis can they be distinguished from observation and experiment?

Responses to this title often succeeded in identifying examples of observation and experiment – particularly from the field of science. Candidates often appropriately challenged the notion that observation is passive, and there were many effective attempts to link the two ways of producing knowledge as elements of scientific method. Through the use of judicious examples, some candidates were able to demonstrate that the natural sciences do not (or cannot) always avail themselves of experiment, and that there may be other ways of establishing knowledge in this area.

While it was an entirely acceptable strategy to attempt to stretch the meanings of these terms in order to determine the extent to which they could legitimately describe the activities of practitioners in other areas of knowledge, some candidates went too far – with the outcome that almost anything seemed to count as one or the other. Hence, mathematical theorems and historical interpretations alike were boldly asserted to be the products of experiment and/or observation, and the subtleties of these “ways” were overlooked. This title gave candidates a

fine opportunity to play with concepts by testing them against real practices in the world, and as expected there was a wide range of degree of accomplishment.

Candidates also turned their attention to other potential options for ways of producing knowledge, and these typically included intuition and deductive logic. Sometimes, essays developed into grand tours of the ways of knowing, while more sophisticated responses seemed to recognize that ways of knowing could play a role within better defined overall methodologies employed in the various areas of knowledge. On occasion, essays were read in which discussion on the two key terms in the title was prematurely aborted in favour of alternatives, and candidates should be counselled to work towards a balance in this sort of endeavour.

3. “There is no reason why we cannot link facts and theories across disciplines and create a common groundwork of explanation.” To what extent do you agree with this statement?

Seven examples of knowledge questions that *could* be addressed in the development of an essay on this title:

- What are the roles of facts and theories in the creation of explanations?
- Does each discipline itself contain a common groundwork of explanation? What might this imply for the creation of such a common groundwork across disciplines?
- Is it easier to link facts or theories across disciplines? Why?
- Why would we want to create a common groundwork of explanation across all the disciplines?
- Why might it be impossible to link facts and/or theories across some disciplines?
- Do the traditional boundaries between disciplines correspond to differences in the facts and theories found on either sides of these boundaries?
- Could a common groundwork of explanation succeed in explaining everything?

This title was not particularly popular. As has been noted with previous titles that included the concept of “explanation”, candidates seemed to struggle with what it might mean. Facts and theories were often conflated, and even re-interpreted as a single category of “evidence” in a manner remarkably similar to the content of one website that unhelpfully provides “guidance” on live prescribed titles. It is outcomes like this that illustrate clearly the dangers of relying upon the input of strangers who may or may not be qualified to comment.

Many candidates failed to get past the idea that there may be interesting links between disparate disciplines, but these links often had little to do with common explanations or indeed facts or theories. An example of this rather general connection would be the sense of elegance often associated with the arts and mathematics. A substantial number of candidates focused on interdisciplinary subjects without clearly addressing how such disciplines could function in

terms of facts and theories. Counterclaims routinely centred upon the clash between science and religion and their alleged inability to provide a common explanation for the origins of the universe and of humanity.

Many candidates showed an awareness of the concept of consilience as developed by William Whewell and, more recently, the biologist EO Wilson, but did not succeed in harnessing their ideas (and objections to them) clearly to the specific title presented to them. Credit was extended to candidates who limited their exploration of the possibilities for a common groundwork of explanation to closely related disciplines, as an insistence upon attempts to appraise the prospects for an ambitious synthesis of all knowledge would have been unrealistic for an assignment of this nature.

4. With reference to two areas of knowledge discuss the way in which shared knowledge can shape personal knowledge.

Seven examples of knowledge questions that *could* be addressed in the development of an essay on this title:

- How effective is the distinction between shared and personal knowledge?
- Is there just one way in which shared knowledge shapes personal knowledge?
- Does shared knowledge shape personal knowledge differently in different areas of knowledge?
- How do ways of knowing allow (or make it difficult for) shared knowledge to shape personal knowledge?
- To what extent is the shared knowledge that shapes personal knowledge itself dependent upon input of personal knowledge? When is this interaction helpful to the production of knowledge?
- Under what circumstances does shared knowledge fail to impact personal knowledge? When is this failure a good or a bad thing?
- To what extent does the way in which shared knowledge shapes personal knowledge affect the characteristics (for example reliability and validity) of that knowledge?

This turned out to be a very popular title. Candidates' degree of success with it understandably tended to hinge upon their various conceptualizations of shared and personal knowledge. As these terms are new additions to TOK in the new course, it was not surprising to find many candidates turning to TOK literature (such as the subject guide or excerpts from the teacher support material) for guidance as to what they meant, and this was treated as acceptable practice on this occasion. However, it was often the case that these clarifications of the terms were not fully developed by candidates – in particular, the notion of personal knowledge was commonly oversimplified to consist only of what we learn through education and cultural environment, and not to extend to skill development and aspects of self-knowledge.

Many candidates examined the two-way interaction between shared and personal knowledge with some insightful outcomes, but sometimes the emphasis in the question on the shared to personal direction was not sufficiently reflected in the responses. That the influence of shared knowledge on personal knowledge was described in the title as a matter of “shaping”, rather than “determining” or some other verb with a different connotation, was often not signalled in the responses that candidates made.

More successful candidates succeeded in illustrating how shared knowledge from the areas of knowledge creates a dynamic relationship with personal knowledge, and in balancing this kind of systematic knowledge with the less formal structures of everyday living. The arts, religion, natural sciences and ethics seemed to be the most effective areas for analysis, and the best essays were able to identify specific shared knowledge from them and make the link to personal knowledge clear.

5. “Ways of knowing are a check on our instinctive judgments.” To what extent do you agree with this statement?

Seven examples of knowledge questions that *could* be addressed in the development of an essay on this title:

- Are ways of knowing always involved in checking instinctive judgements or are they also involved in the making of those judgements?
- Is there a sustainable distinction between instinct and intuition?
- What is the relationship between instinctive judgments and reasoned analysis?
- How can ways of knowing guard against the formation or the consequences of harmful instinctive judgments?
- Is it important that instinctive judgments should always be checked? When should instinctive judgments just be accepted as they are made?
- What kinds of instinctive judgments are made within the various areas of knowledge? How have particular areas recruited ways of knowing in an attempt to check instinctive judgments?
- Do ways of knowing operate differently with respect to instinctive judgments in shared and personal knowledge?

This was a somewhat less popular title, and candidates often struggled with ways of characterizing instinctive judgements. Many seemed not to appreciate that the relationships between them and various ways of knowing could be established in a number of ways – some of which could be incompatible alternatives. The exploration of such different schemes of analysis is perfectly acceptable – even to be encouraged in a TOK essay. Nevertheless, some candidates pointed out the possible internal clash inherent in “instinctive judgements” – namely that “judgements” seems to imply a conscious decision whereas “instincts” seem to undercut the need for decision-making in the first place.

In a similar manner, the ambiguity of the word “check” should have been taken as an invitation for exploration rather than a source of worry for the candidate – there is mileage in regarding ways of knowing as either monitors of instinctive judgements or as preventive measures against them. Some candidates ignored the word “check” altogether and bent the title into a straightforward opportunity to dilate upon the classic relationships between reason and emotion. Many candidates conflated instinct and intuition, which was accepted as a legitimate manoeuvre if support was provided. Sadly, that was often not the case.

Candidates tended to pitch reason as the prime way of knowing opposed to instinctive judgement, and many succeeded in providing examples where profitable outcomes resulted either from the victory of reason or from instinct prevailing over it. Better essays tended to couch the analysis in the context of areas of knowledge, even though this was not strictly required by the title.

6. “The whole point of knowledge is to produce both meaning and purpose in our personal lives.” To what extent do you agree with this statement?

Seven examples of knowledge questions that *could* be addressed in the development of an essay on this title:

- Is there a general “point of knowledge” that is true of all areas of knowledge?
- On what basis can we decide claims about the point of knowledge?
- How can shared knowledge contribute to personal meaning and purpose?
- Is there a difference between how shared knowledge and personal knowledge establish personal meaning and purpose?
- How might the individual decide competing claims about what is meaningful and/or purposeful in the context of different areas of knowledge?
- What other points of knowledge might there be in addition to the construction of meaning and purpose in the individual knower?
- Establishing meaning and significance seems to be part of the process of producing knowledge in the first place. Is it not circular to suggest that this very knowledge helps establish meaning and significance retrospectively?

This was an extremely popular title among candidates with a wide range of success in the responses. Weaker essays treated “meaning and purpose” as one concept and made no attempt to parse the two terms; extremely weak essays took the “meaning” to refer narrowly to a feature of words. Other essays seemed to ignore the imperative to examine the relationship of knowledge to “personal lives”, and generally struggled to marshal the suite of concepts in the title into a coherent understanding.

Some candidates exhibited a weak logical grasp of the title when they focussed on searching for alternative origins of meaning or purpose – the title posits that this is what knowledge is

for, but not that knowledge is the sole wellspring of meaning and purpose – and such candidates would have been better advised to sharpen their attention on the actual strong assertion in the title, which is clearly contestable.

Many essays took meaning and purpose in a pragmatic direction as attributes of a successful material life (career, etc.) while failing to consider the potential effects of the knowledge we gain through our formal education on our more philosophical and psychological attitudes to living, such as an appreciation of insignificance or beauty from scientific knowledge, or identity and belonging from history. On the other hand, some candidates took the title as an invitation to focus exclusively on the role of religion in life and hence lost the balance that is required in a TOK essay.

Section 2: Presentations

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

Until November 2014 about 5% of candidates' oral presentations were viewed by senior examiners in order to confirm or change the marks awarded by teachers. This procedure was known as verification. Schools knew in advance that they would need to record and send the presentations of (usually) five candidates displaying the range of marks in the cohort. A few schools were selected at random and many were selected because there was cause for concern due to the striking discrepancy in marks in previous sessions between the oral presentation and the essay.

Verification was the only way in which the quality of a TOK oral presentation could be judged. A fairer model was needed, and it is for that reason that moderation has been introduced for all schools starting this session as advised to IB Coordinators and through the OCC, and stated in the November 2014 TOK report. Now each candidate, and his or her teacher, is required to complete and upload a TK/PPD form (presentation preparation document). Moderators receive a sample per school as happens with other internal assessments. Given resource constraints, the TK/PPD form provides the basis upon which moderation judgments are made on the (not entirely unreasonable) principle that planning documents are fairly good predictors of the quality of the content of a presentation. Verification of a sample of schools may continue alongside moderation in the future.

Although no presentations were viewed this session, it was evident that the forms which were appropriately used and filled represented the better presentations. It seems most unlikely to have an unclear, incomplete and poor form supporting a good presentation. The feedback provided by moderators to schools is an added strength of the process and will inform teachers regarding adjustments they need to make to their course and the way they conduct the TOK presentation process.

What follows in this report are the observations of moderators regarding areas of concern and points to note for improvement as well as commendations for schools whose students performed well in this task and showed that they understood the nature of the TOK presentation. The many students who made the effort to plan and prepare their presentations appropriately and who showed that they were delivering apposite TOK presentations (not presentations on a topic) are to be complimented as are the many teachers who gave their students the support they needed and who completed the teacher section of the form in a helpful and clear manner.

The TK/PPD form is not only an assessment tool but as indicated by its name – presentation preparation document – it is importantly also intended to aid the student in the planning of the

presentation. The TK/PPD is designed in a particular way to direct students in the preparation of pertinent, comprehensive and ordered presentations. This should also help teachers when offering guidance to their students.

The TK/PPD Form

The TK/PPD form asks candidates to consider each essential part of the presentation in turn under a specific heading. Some important points need to be made about each of these headings from both the 'Candidate Section' and the 'Teacher Section'. Teachers are requested to pay attention to these.

The Candidate section

1. *Describe your real-life situation* (RLS)

"Real-life situation" here is in the singular. Candidates are therefore requested to describe ONE real-life situation as their starting point. All too often there were two, three or more which was an unnecessary diversion. A serious concern was found in the number of RLSs which were vague, anecdotal or hypothetical situations. It was difficult to see how the stated knowledge questions (KQs) were extracted from these RLSs which were not real nor life situations, and which did not have significance.

Candidates who managed the choice of RLS well had chosen specific situations which often came from news items or contemporary issues. Where they understood these well their descriptions were clear, accessible and engaging. The description should be brief, it is not necessary to include lengthy narrative before beginning the analysis. The most popular topics, but which did not necessarily produce good presentations were:

- ethical issues - human rights, freedom of speech, racism, discrimination, euthanasia, designer babies
- news items about crimes (mainly police shootings) and wars;
- harmful government practices and policies particularly with regard to internet surveillance, censorship and secrecy;
- social issues and popular culture (gender roles, beauty, religion)

Ethical issues are popular but often done badly and teachers would do well to discourage their weaker students particularly from tackling ethics. The tendency from those students is to present the pros and cons of a particular issue and then stop. As one moderator put it, "what is missing here is evaluation and penetrating below the line into TOK territory using TOK language." Candidates should be reminded that just because something is controversial it does not mean it will be a good RLS. For good analysis the treatment should be about the knowledge involved in ethical judgments rather than the judgments themselves.

Key points

- Candidates must select one RLS from which their KQ can be extracted.
- The RLS should be significant so that a question about knowing can be raised.
- A successful presentation will be based on an example which is "real life" and a "situation".

2. State your central knowledge question (this must be expressed as a question)

This is the single major weakness in the presentations and careful attention needs to be paid here. As with the RLS, the instruction is in the singular. Two or three KQs were sometimes given; in other words there was no “central knowledge question”.

A KQ needs to be genuinely about the construction of knowledge or the nature of knowledge, not a vaguely open-ended, philosophical, ethical or psychological question. Many “knowledge questions” given were more suitable as research questions for social science, current events or investigative reports but were not inquiries into the nature of knowledge itself. The guide makes the distinction between second-order questions which are about knowledge, and first-order questions which are about the RLS and this must be worked on and understood. When the knowledge question is not formulated as a question about knowing but about some content, then the presentation has no prospect.

A rule of thumb for teachers to help their students when deciding whether a question is actually a KQ is this: “if the question cannot be reworded to contain some version of the verb ‘to know’ then it is probably not a genuine KQ”. Teachers should build into the delivery of their courses continuous skill building in the detection and formulation of knowledge questions, from the beginning of the course and in association with each unit. There are many different ways to do this.

Some candidates used prescribed titles from previous years as their KQs; some also used prescribed titles from the current session. In these cases, one cannot help but wonder about the teacher guidance and understanding of the task.

Examples of knowledge questions:

1. At what point do the means of knowledge acquisition become unethical?
2. At what point do we decide ethically to limit the application of knowledge?
3. At what point does assumed knowledge justify action?
4. Is sharing knowledge inherently beneficial?
5. How do we know where to assign responsibility for consequences?
6. In what ways do memory and sense perception impact one another to shape knowledge?
7. In what ways might emotion and reason interact to shape our behaviour?
8. In what manner do ways of knowing reinforce the permanence of ethnic stereotyping across generations?
9. In what way does shared knowledge contribute to individual understanding?
10. What role does the accumulation of evidence play in the shaping of behaviour?

11. What role does naming play in influencing our perception?
12. What role does language play in constructing cultural identity?
13. Is creativity learned or innate?
14. How important is experience in the acquisition of knowledge?
15. How could we know the relation between artistic convention and artistic value?
16. What is the role of history in making judgments of artistic value?
17. What is the role of authority in shaping personal knowledge?
18. What are the implications of limitations to the access to knowledge?
19. Are the human sciences adequate to fully understand an individual?

Key points

- The presentation should have one central knowledge question.
- The KQ should be a second order question about knowledge and knowing.
- Time needs to be spent on understanding knowledge questions.

3. Explain the connection between your real life situation and your knowledge question

Candidates found this difficult and very often made general comments with little reference to the RLS. All too often the moderator could not see the connection because it was random. For example: *RLS: Wild buffalo fends off pride of lions from killing her calf / KQ: How far can we claim that the ways of knowing help us in making the right decision?*

Candidates need to reflect on what assists a moderator in determining whether the KQ presented is actually relevant to the RLS.

4. Outline how you intend to develop your presentation, with respect to perspectives, subsidiary knowledge questions, arguments, etc. Responses below can be presented in continuous prose or as bullet points.

Sadly many candidates did not read the whole instruction above and as one moderator put it “outlines were often very sketchy” amounting to little more than a list (e.g. “introduction, WOK, AOK, arguments, conclusion”) or a promise “I will give examples”. Stronger candidates offered identification of the concepts alongside evidence. The strongest presentations were able to delineate the connections between their concepts and show the scope and sequence of their presentations.

Genuine content is needed throughout and more often than not there was no consideration of perspectives, no subsidiary KQs, and no arguments presented.

The instruction that bullet points are acceptable did not always work in the candidates' favour. Those who chose to use bullet points tended to provide too little information about their ideas.

5. Show how your conclusions have significance for your real life situation and beyond

Here candidates often gave their position on the topic rather than what the instruction requests and "show" proved to be the most difficult for weaker candidates who found it hard to discuss the outcomes of their analysis. Most of them chose to conclude on a factual or descriptive level dealing with the central real-life situation instead of analysing what had been demonstrated by the consideration of the questions. The stronger candidates looked at implications around different positions within the RLS. However, very few considered implications "beyond".

A useful recommendation from a moderator is that "teachers might suggest to their students that there must be two parts to this section - one that directly links back to the RLS; and another that considers application to other areas".

Key points

- The outline must show how the presentation will progress in terms of TOK analysis.
- Attention must be paid to all the command terms on the TK/PPD form.
- Candidates must remember that a moderator's judgment will be based on what is written on the form.

The Teacher Section

The Teacher Section asks the teacher to:

*Provide **comments** to support your assessment of the presentation*

Many teachers are to be commended for the serious way in which they have attended to their students' presentations. A few other teachers, on the other hand, have not been helpful enough. Some wrote one generic comment which they altered a little for each candidate/group. That does not help the moderator, it shows a lack of care, especially when marks conflict with the information given by the candidate/s.

The Teacher Section asks the teacher to provide comments in support of their assessment of the presentation. It is about justification, which means that those statements should relate to some level of evidence from the Candidate Section and the presentation itself. Moreover, teachers should be justifying their own marks and interpreting the presentation for the moderator. In other words, teachers need to convince moderators that the marks they awarded were the right ones.

Often teachers described what the candidate/s did in the presentation and nothing else – that is not an explanation for the assessment. In many instances, teacher comments were only re-statements or rough paraphrases of the selected achievement level and it is then very difficult for the moderator to corroborate the Teacher Section with the Candidate Section.

Teachers are required to understand that their section is used to help confirm the impression of the Candidate Section and that in order to do this more than declarative statements are required, particularly where a Candidate Section may raise a few questions. Teacher comments on the PPD should be aimed at the moderator, not the student. Praising students

for their hard work, how well they have incorporated comments on drafts or an earlier version, or chastising them for not taking advantage of advice is not something moderators need to see. In general there must be far more detail here.

The presentation assessment instrument must be used. In a few instances it was clear that teachers had their own rubrics, their own procedures to guide students through the process and though this may be useful for internal purposes it is not how the presentation should be assessed.

Key points

- The teacher section must be used to explain the mark given in relation to what is stated in the Candidate Section.
- Repeating descriptions from the assessment instrument is not helpful.
- The teacher must provide evidence for the mark given.

Recommendations for IB procedures, instructions and forms

Although many schools completed the whole procedure well it was disappointing to see that there are schools where there seems to be little interest in following the correct procedures and paying attention to instructions, which affected their candidates. These are the main recommendations to improve matters:

- Teachers must remember that the mark given is for the presentation, not for each individual student. Individuals in a group presentation must all receive the same mark. Teachers must therefore ensure that their students understand the importance of teamwork in this respect.
- There were presentations with more than three participants and there were presentations on the same topic in the same cohort. These breaches of the rules will be treated more harshly by moderators in the future.
- Many schools uploaded duplicate planning documents in their sample. Ensuring that the work of two candidates undertaking the same presentation does not form part of the sample would help minimize delays and follow-up.
- It was evident that several schools did not use the TK/PPD forms for planning purposes. Candidates must use the document as an integral part of their planning, and teachers must give candidates support in formulating a valid KQ. Some schools, on the other hand, used them for a very first brainstorming exercise. The twofold purpose of the form must be remembered.
- Many forms were handwritten which did not allow for the detail and development necessary. They were often difficult to read. Typewritten forms are recommended.
- Many presentations had clearly gone over the time limit and teachers are reminded to keep presentations to the recommended time limits.

Key points

- The format of the TK/PPD forms is intended to help candidates prepare their presentations

- Candidates and teachers must remember that moderators will be using the TK/PPD forms as evidence for the marks
- Following instructions and procedures is in the interests of teachers' students.

Specific problems with TK/PPD forms

Teachers are asked to pay attention to the following:

- Ensure that forms have been completed as required. Some forms had no signatures; no dates; no names. Some forms were partly filled in, some just had the name of one candidate and nothing else. A few teacher sections were blank or just had a couple of words on them; some parts of candidate sections were left blank.
- Ensure that all pages of the form are uploaded. Some forms were uploaded without the Teacher Section or including page 1 and page 3 only. Some had the name of one candidate only in a group presentation.
- There were cases of submission of the old forms (or of the essay planning and progress form) and giving students a mark out of 20 and then dividing it by 2.
- Some teachers attached an extra page with notes or included a checklist (probably used in their school). Often this was in landscape format so it was difficult to read as the system does not allow for rotation. No extra pages should be added; teachers should just fill in the Teacher Section box.
- Candidates who used the full word count were well advised.

Key points

- Candidates and teachers must check that forms have been properly completed before uploading.
- Additional pages should not be added. All information must be in the boxes.
- The same presentation must not be part of sample more than once.

Recommendations for the teaching of future candidates

Candidates should use the full word count in the Candidate Section. They should be specific in the outline with respect to how identified WOKs and AOKs will be used (rather than simply stating THAT they will be used). A description of an approach is not helpful – e.g. “first I will raise my KQ, then I will consider relevant WOKs, then some AOKs”.

Schools are strongly encouraged to use the materials (which include sample TK/PPD forms) related to the presentation on the OCC and the TSM (Teacher Support Material). These are invaluable in demystifying concepts and scaffolding the approach to the task.

Finally, below are some examples of pairs of real-life situations and knowledge questions which have served as starting points for presentations. The real-life situations are described. The knowledge questions were extracted from these real-life situations.

RLS – Cartoons of prophet Muhammad: Danish paper Jyllands-Posten published cartoons of Muhammad in 2005 as part of a debate criticizing Islam's censorship. Muslim groups complained and there were protests and violent demonstrations in some Muslim countries.

KQ – How could we know if and when artistic freedom of expression should be limited?

RLS – The Scottish referendum: the referendum on Scottish independence took place on 18 September 2014 and asked the question “should Scotland be an independent country?” The no vote won. The campaign on both sides was lively and heated (“Yes Scotland” vs “Better Together”).

KQ – What is the role of reason and emotion in making choices?

RLS – in physics practical lessons I often collect data that contradicts well-established theories. I then look for errors in my experiment because I believe those theories have to be right.

KQ – To what extent is faith a reliable way of knowing?

RLS – The end of the Cold War (1989-1990) as illustrated in the song written and performed by Scorpions “Wind of Change”

KQ – In what ways do the arts influence people's perspectives of current events?