

OXFORD IB DIPLOMA PROGRAMME



KEY CONCEPTS

2020 EDITION

THEORY OF KNOWLEDGE

COURSE COMPANION

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INTRODUCTION TO SUPPORT FOR TOK CONCEPTS

The TOK matrix (found here <http://oxford.ly/tokmatrix>) points you to where in the *TOK Course Companion* each of the 12 TOK concepts is discussed. This can help you to explore the book from a concept-based perspective.

CHAPTER	PAGE RANGE	HEADING	TOPIC / LESSON	VALUES	EVIDENCE	CERTAINTY	TRUTH	INTERPRETATION	POWER	JUSTIFICATION	EXPLANATION	OBJECTIVITY	PERSPECTIVE	CULTURE	RESPONSIBILITY	Classroom activities
CHAPTER 1: KNOWLEDGE & THE KNOWER	2-3	S	Knowledge as a map for navigating the world: Usefulness, accuracy, and truth													
	4-9	S	Many knowledges and some ignorance: Putting the map together													
	9-10	P	Authority and intellectual humility													
	11-2	P	Strange and/or insulating beliefs													
	13-8	MT	Your intellectual autobiography: pluralism, responsibilities, and varying our metaphors of knowledge													
	18-9	E	Intellectual entitlement and problematic beliefs													
CHAPTER 2: KNOWLEDGE & POLITICS	20-1	E	Epistemic diversity and epistemic justice													
	22-27	S	Political everything? From unnatural disasters to the IB													
	28-30, 43-44	S, P, MT	Knowledge and citizenship: from the Overton Window to the master's tools													
	31-5, 45-6	P, MT	A post truth society?													
	35-9	P	The danger of fair and balanced													
	39-43	P	Filter bubbles and echo chambers													
	46-50	MT	Political digital subcultures													
	50-2	E	Pluralism vs no-platforming and the politics of respectability													
CHAPTER 3: KNOWLEDGE & TECHNOLOGY	52-57	E	Opportunities and concerns at the intersection of knowledge, politics, and technology													
	59-62	S	Humanity as a technological culture: From extraterrestrial communication to empires of infrastructure													
	64-7	P	From technological determinism to Afrofuturism: Identity and technology													
	68-70	MT	The sum of all human knowledge? Wikipedia and democratizing access and production of knowledge													
	75-7	MT	Technological imag(in)ing: From the cosmos to war													
	67-8, 71-5, 80-4	P, MT, E	Using tech to know humans: Opportunities and challenges, insights and bias													
CHAPTER 4: KNOWLEDGE & LANGUAGE	78-80	E	The technological deck: Do artefacts have politics?													
	77-8, 81-6	MT, E	The moral reckoning of technology													
	88-91, 106-8	S, MT	Broadening our understanding of language: from <i>quipu</i> knots to non-human communication													
	92-3	S	The role of metaphor													
	93-6	P	Linguistic and epistemic diversity: Repositories of knowledge													
	96-100	P	Colonization, language loss, and English as the global lingua franca													
	100-1	MT	Deaf culture and sign languages													
	101-3	MT	How do we know what we know about language?													
CHAPTER 5: KNOWLEDGE & INDIGENOUS SOCIETIES	104-6	MT	Problems with translation													
	108-10	E	Ethical dimensions of language: Political correctness, emotional register, and "just" language													
	112-5	S	Understanding Indigeneity and Indigenous knowledge: Local, political, holistic and dynamic													
	136-7	E	Voluntarily isolated peoples													
	116-8, 132	P, MT	Erasure and marginalization of Indigenous ways of knowing													
	118-21, 123-4	P, MT	Decolonizing knowledge: Indigenous research methodologies, education, and epistemic resurgence													
	121-2, 127-32	P	Traditional Ecological Knowledge: Who knows about conservation?													
124-7	P, MT	The Grammar of Animacy: Does some knowledge only belong to speakers of a particular language?														
133-6	E	The ethics and politics of representation, appreciation, appropriation														

These concepts are: Evidence, Certainty, Truth, Interpretation, Power, Justification, Explanation Objectivity, Perspective, Culture, Values and Responsibility. The TOK course does not provide definite answers about what these concepts are, but rather provides a range of meanings across different disciplines, intellectual traditions and knowledge communities.

In addition to the matrix, we have created one poster per TOK concept. These concept posters make clear links between the 12 TOK concepts and *TOK Course Companion* material. Each concept poster gives links to several examples and case studies, in order to help you explore further that concept using your *TOK Course Companion*.

KEY CONCEPT

1. EXPLORING EVIDENCE

TOK encourages you to examine the **evidence** provided in support of claims and to explore how the validity and reliability of evidence is established in the process of producing knowledge.

But what constitutes evidence, or its appropriateness as a method of justification? What causes evidence to be accepted or dismissed, used or misused? The answers to these questions are contested and vary across disciplines and cultures.

Explore the role of evidence in the following examples and case studies:

A AOK NATURAL SCIENCES

177-81, 189 P Scientific consensus, disagreement, and denialism

? What was the role of evidence in establishing and challenging scientific facts about HIV/AIDS?

B AOK HUMAN SCIENCES

218-9 P Controversies and disputes in the human sciences: Heretics and Heroines in anthropology

? How was evidence used to challenge or uphold Margaret Mead's theory about adolescence?

C AOK ARTS

287-91 P Original forgeries: objectivity, value, and evidence in artin anthropology

? What does the use of evidence in this case study about Han van Meegeren reveal about truth, certainty, and expertise in the context?

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287–91

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2. EXPLORING CERTAINTY

In TOK we frequently encounter the question of what constitutes enough evidence and/or knowledge to cross the threshold from uncertainty into **certainty**, and how this threshold varies across contexts.

How do we think about certainty in science, art, mathematics or religious knowledge, and what does that tell us about how certainty intersects with other concepts such as culture, values and power?

Explore the role of certainty in the following examples and case studies:

A KNOWLEDGE AND RELIGION

153–4, 163

MT.E

The nature of religious knowledge: Belief, practice, contestability and doubt



How does religious knowledge and/or authority intersect with ideas of certainty, uncertainty, interpretation, doubt and contestability?

B AOK NATURAL SCIENCES

167–9

S

Understanding the scope of science: Boundaries and limits

171–6

P

How does science develop? From Whig histories to “bad science”, crises and paradigm shifts



What is the role of certainty in scientific knowledge, and how has this changed over time?

C AOK HUMAN SCIENCES

209–12

S

Chasing the rigour of natural science: Mathiness and physics envy in economics



Do some forms of knowledge seem to allow for certainty more than others?

3. EXPLORING TRUTH

In TOK we explore both how knowledge comes to be considered as true, and how we deal with the way in which facts and theories that were formerly considered to be true are dismissed. What is the relationship between knowledge and **truth**, and what does it mean to claim that what you know is true? How does this concept of truth intersect with the other concepts such as certainty, interpretation, power, culture and values?

Explore the role of truth in the examples and case studies below.

A KNOWLEDGE AND POLITICS

31–5, 45–6 PM, MT **A post-truth society?**

35–9 P **The danger of fair and balanced**



What are the challenges in discerning whether the role of truth has changed or diminished in society?

B AOK MATHEMATICS

337–40 MT **Mathematical proof: Eternal truths and digital advances**

341–2 MT **Mathematical beauty: Truth and elegance**



How has technology affected the way that the truth of claims is established in mathematics?

C AOK HUMAN SCIENCES

231–5 MT **Measurement matters: From school grades to the economics of happiness**



How does what we can measure affect what we can know to be true?

4. EXPLORING INTERPRETATION

TOK asks us to consider the role of **interpretation** in a range of domains and processes, and raises questions such as when is it desirable to have multiple interpretations, versus when is having multiple interpretations a sign that the knowledge or fact is not well established?

We also come to appreciate that it matters, for better or worse, whose interpretation is in consideration and that some forms of knowledge are more open to interpretation than others. This concept is also involved in agreement and disagreement, and how facts are established, such as when we agree on the evidence, but interpret it differently.

Explore the role of interpretation, and how it intersects with other concepts such as evidence, power, perspective and objectivity in the examples and case studies below.

A KNOWLEDGE AND TECHNOLOGY

71–5,
80–84

MT.E

Using tech to know humans: Opportunities and challenges, insights and bias



What advantages, opportunities, challenges and risks are posed by using technology to interpret data about human behaviour and interactions?

B KNOWLEDGE AND LANGUAGE

104–6

MT

Problems with translation



How does the role of interpretation in translation change depending on what is translated?

C AOK HISTORY

269–73

MT

Innovative methods in history: Technology, patterns and predictive knowledge



In what ways, and with what implications, is technology changing the role of the historian and the methods of interpretation in history?

D AOK THE ARTS

278–86

S

What is and isn't art: Readymades, artisanry, craft, women creatives and borderline cases



How is the role of interpretation in the processes of knowledge in the arts similar or different from the other areas of knowledge? How does the pluralism of interpretations in art affect our ability to gain knowledge from it?

5. EXPLORING POWER

Power profoundly influences the processes of knowledge – production, acquisition, dissemination and application – and intersects with every other concept in ways that we can make visible through TOK. As an entry point, consider the relationship between power and knowledge, and what different knowers claim this relationship should be.

Many of the tensions and questions we can explore through this concept can be flipped and asked the other way around. Consider, for example, the extent to which knowledge confers power to a knower versus power conferring legitimacy and authority to establish one’s claims as knowledge. How can and does knowledge disrupt power relations, structures and systems? How does power affect the various systems and processes of knowledge?

This concept asks us to think critically about:

- questions of access, such as who the knowledge keepers are and where knowledge is kept
- questions of transfer, such as where and how knowledge flows
- questions of responsibility, as knowers with varying degrees of knowledge and power.

Explore the role of power in the examples and case studies below.

A KNOWLEDGE AND LANGUAGE

96–100

P

Colonization, language loss and English as the global lingua franca



What is the role of power in the knowledge stored, transferred or privileged through language?

B AOK INDIGEONOUS

116–18, 132

P, MT

Erasure and marginalization of Indigenous ways of knowing

118–21, 123–4

P, MT

Decolonizing knowledge: Indigenous research methodologies, education and epistemic resurgence



What knowledge issues are made visible through considering the erasure and marginalization of indigenous ways of knowing and the moves to correct the process of decolonization?

C AOK NATURAL SCIENCES

190–92

P

Feminist and post-colonial critiques of science



What does looking through the lens of identity reveal about how scientific knowledge has been and continues to be influenced by power structures?

D AOK THE ARTS

297–304

P

Patrimony, repatriation, appropriation and redistribution of art



How does the ownership, displacement, and/or appropriation of cultural and artistic objects influence who can know what and how they know it? What does the discourse around patrimony and repatriation reveal about how power structures influence knowledge in the arts?

6. EXPLORING JUSTIFICATION

Justification is another key concept in the production, transfer and acquisition of knowledge. TOK invites us to consider the basis for justification, for example whether a knower justifies their claims and/or beliefs on the basis of evidence, authority or interpretation. How do other concepts, such as power, culture and values complicate this? Justification also intersects with responsibility, for example when and how knowledge (or the lack of knowledge) serves as justification for action or inaction.

Explore the role of justification in the examples and case studies below.

A AOK THE ARTS

287–91

P

Original forgeries: Objectivity, value and evidence in art

291–2

P

Expertise and judgment in art



In the arts, on what basis are claims about originality, authorship and artistic value justified?

B AOK MATHEMATICS

321–4

S

The scope and “unreasonable effectiveness” of mathematics

325–6

P

Is mathematics discovered or invented?



What is offered as justification for the claims about the origins and effectiveness of mathematical knowledge?

C AOK HISTORY

246–50,
261–3

S, MT

The scope of historical knowledge: The role of written records and the start of history



On what basis is the scope of history established and contested, and what justification is given in both cases?

D AOK HUMAN SCIENCES

213–18

P

The trouble with “normal” and “natural”: From women’s pain to the banality of evil



To what extent do changes in values and power over time influence the justification for claims or claims as justification for action in the human sciences?

7. EXPLORING EXPLANATION

In examining the relationship between knowledge and **explanation**, what often comes up is the question of whether one can know something without being able to explain it.

How and when are explanations of experience and observed phenomena an answer to (a) how things happen, and (b) why they happen? To what extent is this what we mean by knowledge? TOK also invites us to consider what makes a good explanation, an accurate explanation and how we can distinguish the relative merits of two different explanations.

Explore the role of explanation in the examples and case studies below.

A AOK NATURAL SCIENCES

186–7, 195–6

P, MT

Simplicity versus Accuracy: Textbook problems in genetics



Against which measures do we evaluate the relative effectiveness and accuracy of competing explanations in the natural sciences?

B AOK HUMAN SCIENCES

220–22

P

Simplicity versus Accuracy: Textbook problems in economics



What constitutes a good explanation and on what basis can this be challenged?

C AOK HISTORY

257–61

P

International understanding and history textbook revision



Under what circumstances should explanations of historical events change and be updated?

D AOK MATHEMATICS

344–6

MT

Knowing mathematics: Language, imagination and doing impossible mathematics



How does what can be explained limit what can be known in mathematics?

8. EXPLORING OBJECTIVITY

Objectivity is popularly understood as an essential quality of knowledge, but TOK invites us to scrutinize when and why this is so, and when it might not be so. Questions of objectivity hold the challenge of whether, as individual knowers, we are able to overcome our limitations, biases and perspectives – and how.

To what extent do the methods of knowledge production contain sufficient checks and balances on human fallibility and bias to produce “objective” knowledge as a result?

Explore the role of objectivity in the examples and case studies below.

A AOK NATURAL SCIENCES

193–201

MT

The methods of science: Observation, experimentation, objectivity, patterns, complexity and reductionism



To what extent are the challenges of objectivity for the natural sciences overcome in the methods of observation and experimentation?

B AOK HUMAN SCIENCES

222–9

MT

WEIRD research: Who are the humans in the human sciences?

229–30

MT

Neutrality and objectivity in fieldwork and ethnographic methods



What is it about the experimental psychology and ethnographic research that contributes to or takes away from the objectivity of the knowledge produced through these methods?

C AOK HISTORY

263–7

MT

The historian's role: Subjectivity, objectivity, imagination



In which ways do the methods of knowledge production in history guard against the personal values and perspectives of historians?

9. EXPLORING PERSPECTIVE

TOK invites our curiosity about the **perspectives** of others as well as our own. How, why and under what circumstances do different perspectives form, and what does this reveal about knowledge? Should all perspectives be supported by evidence, and under what conditions is it desirable or undesirable to have many different perspectives on a given issue?

Having multiple, partially overlapping, and sometimes contradictory perspectives coexisting in the same space presents advantages as well as challenges. Having a personal and civic ethic that cultivates these advantages and manages the challenges is called “pluralism” and is a foundation for modern liberal democracies around the world. “Pluralism” is threatened when the appetite, or capacity, for managing these challenges is diminished, for example when efforts at consensus-building and respectful dialogue between opposing perspectives are seen as unimportant or not worth it.

To what extent would you agree with the view that, collectively, we benefit from having multiple perspectives and multiple knowledges about the world? How important are other factors, such as autonomy and freedom, which afford these perspectives agency? What is lost when a perspective is lost?

Explore the role of perspective in the examples and case studies below.

A KNOWLEDGE AND POLITICS

50–52

E

Pluralism vs no-platforming and the politics of respectability



What are the implications for knowledge when exposure to, and engagement with, certain perspectives is curtailed on political grounds?

B KNOWLEDGE AND POLITICS / KNOWLEDGE AND TECHNOLOGY

39–43

P

Filter bubbles and echo chambers



Under what conditions does technology widen or narrow the range of available perspectives, and what are the implications of this on knowledge and politics?

C KNOWLEDGE AND INDIGENOUS SOCIETIES / KNOWLEDGE AND LANGUAGE

121–2,
127–32

P

Traditional ecological knowledge: Who knows about conservation?

124–7

P, MT

The grammar of animacy: Does some knowledge only belong to speakers of a particular language?



When encountering different perspectives across cultures and languages, what are some challenges for being able to understand them or fairly evaluate them?

D AOK NATURAL SCIENCES

177–81, 189

P

Scientific consensus, disagreement and denialism



How can we tell when and whether a difference in perspective is a case of pluralism or denialism?

10. EXPLORING CULTURE

Culture is more than just the “context” in which knowledge “happens”, as both culture and knowledge can shape each other in important and profound ways. In what ways can different knowledge communities, such as astrophysicists, sculptors, modern historians and pure mathematicians, have a distinct culture that shapes and is shaped by their knowledge? One place of friction between knowledge and culture is the idea of universal knowledge that transcends culture; what are the implications of such a claim?

Explore the role of culture in the examples and case studies below.

A KNOWLEDGE AND POLITICS

46–50

MT

Political digital subcultures



What are some similarities and differences between the ways knowledge is produced in virtual communities as compared to traditional academic institutions?

B KNOWLEDGE AND TECHNOLOGY

59–62

S

Humanity as a technological culture: From extraterrestrial communication to empires of infrastructure

64–7

P

From technological determinism to Afrofuturism: Identity and technology



In what ways would you describe the relationship between technology and culture, and what evidence could you offer for each of them?

C KNOWLEDGE AND LANGUAGE

93–6

P

Linguistic and epistemic diversity: Repositories of knowledge



How does the decline of linguistic diversity influence the preservation and transfer of cultural knowledge and diverse ways of being and knowing?

D AOK MATHEMATICS

327–30,
352–4

P

Mathematicians as a community: Individuals, values, disputes and influence

342–3

MT

Mathematics education and communication

330–36

P

Mathematics: Universal or culture-bound? Diversity, ethnomathematics and decolonization



What do the diverse ways of doing mathematics tell us about the relationship between this area of knowledge and culture?

E AOK HUMAN SCIENCES

236–9

MT

The replication crisis: A crisis of academic culture?

?

What does the so-called replication crisis in the human sciences reveal about the role of culture in the processes of knowledge in this AOK?

F AOK THE ARTS

292–5,
310–11

P

The “art world”: Ownership, access and community

?

Which cultural values does the global community of the so-called art world reflect through its processes of ownership and access to knowledge?

F AOK HISTORY

252–4,
256–7

P

Identity, diversity and representation in history

?

Is the cultural diversity of experts and those who produce knowledge more or less important in history as compared to other disciplines?

11. EXPLORING VALUES

In TOK we can explore the relationship between **values** and knowledge. For example, to what extent is knowledge value-free, or neutral, versus value-full? What values guide the acquisition, production, application and sharing of knowledge in different contexts?

Explore the role of values in the examples and case studies below.

A KNOWLEDGE AND POLITICS

22–27

S

Political everything? From unnatural disasters to the IB



What values are involved in claiming that knowledge is or is not contestable?

B KNOWLEDGE AND TECHNOLOGY

78–80

E

The technological deck: Do artefacts have politics?



To what extent can artefacts produced through human knowledge be value-free?

C KNOWLEDGE AND INDIGENOUS SOCIETIES

133–6

E

The ethics and politics of representation, appreciation, appropriation



What are the implications of transferring knowledge between communities that may not have shared values?

D AOK HISTORY

274–5

E

Restitutive versus objective history

276–7

E

Judging the past by the standards of the present



To what extent should knowledge in a discipline change in keeping with a change of values over time?

E KNOWLEDGE AND LANGUAGE

108–10

E

Ethical dimensions of language: Political correctness, emotional register and “just” language



How can we know whether the role of language is to outpace and drive a change in values or to simply reflect them?

12. RESPONSIBILITY

Through TOK we have the opportunity to consider our role and responsibilities as producers, sharers and appliers of knowledge in this world. How and why should we become aware of the influences on our development as knowers and our influence on others? What responsibilities accrue to us and others as members of different knowledge communities? To what extent do we have a fundamental **responsibility** to be knowledgeable, to be responsible with our knowledge and to be knowledgeable about our responsibilities?

Explore the role of responsibility in the examples and case studies below.

A KNOWLEDGE AND KNOWER

13–18

MT

Your intellectual autobiography: Pluralism, responsibilities and varying our metaphors of knowledge



Consider the influences and events that have shaped you as a knower and thinker. What has been the role of (a) your upbringing and participation in different communities, (b) your schooling, and (c) your experiences with specific places, people, events or key ideas? How much of your intellectual development has been intentional, and in what ways do you want to develop?

B KNOWLEDGE AND THE KNOWER

39–43

P

**Authority and intellectual humility
Strange and/or insulating beliefs**

18–21

E

**Intellectual entitlement and problematic beliefs
Epistemic diversity and epistemic justice**



Why do people believe strange things and what should you do about it? To what extent do we have a “right to believe responsibly?” Do you have a responsibility to make space for epistemic diversity and epistemic justice, and if so, how?

C AOK MATHEMATICS

347–52

E

Mathematics: Neutrality, impartiality and responsibility



To what extent is our responsibility as knowers contingent on the potential applications of our knowledge?

D AOK NATURAL SCIENCES

202–5

E

Ethics in the methodology and applications of science



What questions should scientists consider when evaluating the possible implications of their research?

E AOK HUMAN SCIENCES

240–5

E

The Anthropocene and climate justice



How are issues of responsibility and ethics in the human sciences complicated by issues of power?

F AOK THE ARTS

295–7,
312–16

P, E

Progressive, subversive and transgressive art and censorship



What are the responsibilities of knowers in considering whether a controversial artwork pushes the boundaries or crosses a line?

316–20

E

Putting the ethics in aesthetics: Representation of the global south