



PEARSON BACCALAUREATE



Theory of Knowledge

2nd Edition

SUE BASTIAN • JULIAN KITCHING • RIC SIMS

Supporting every learner across the IB continuum



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Dedications

I salute my students, fellow teachers, IB colleagues, friends, and family who have taught me so much. I am still learning.

Sue Bastian

I would like to thank the teachers of TOK at the SOS Hermann Gmeiner International College in Ghana for their support and insightful contributions to some of the ideas in this book. I dedicate the book to my wife, Harriet, who has graciously tolerated my erstwhile inattention, and my twin daughters Sophia and Olivia who have started to teach me so much about the capacities of the human mind and what it means to learn.

Julian Kitching

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Ric Sims

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To the student

Over the years, you may have had teachers who loved their subject and taught with great enthusiasm. You might have wanted to share in their delight, to feel the same way about a formula, a cell, a colour, or a poem instead of just writing something in your notebook to use in the next exam. To be in their presence was an inspiration.

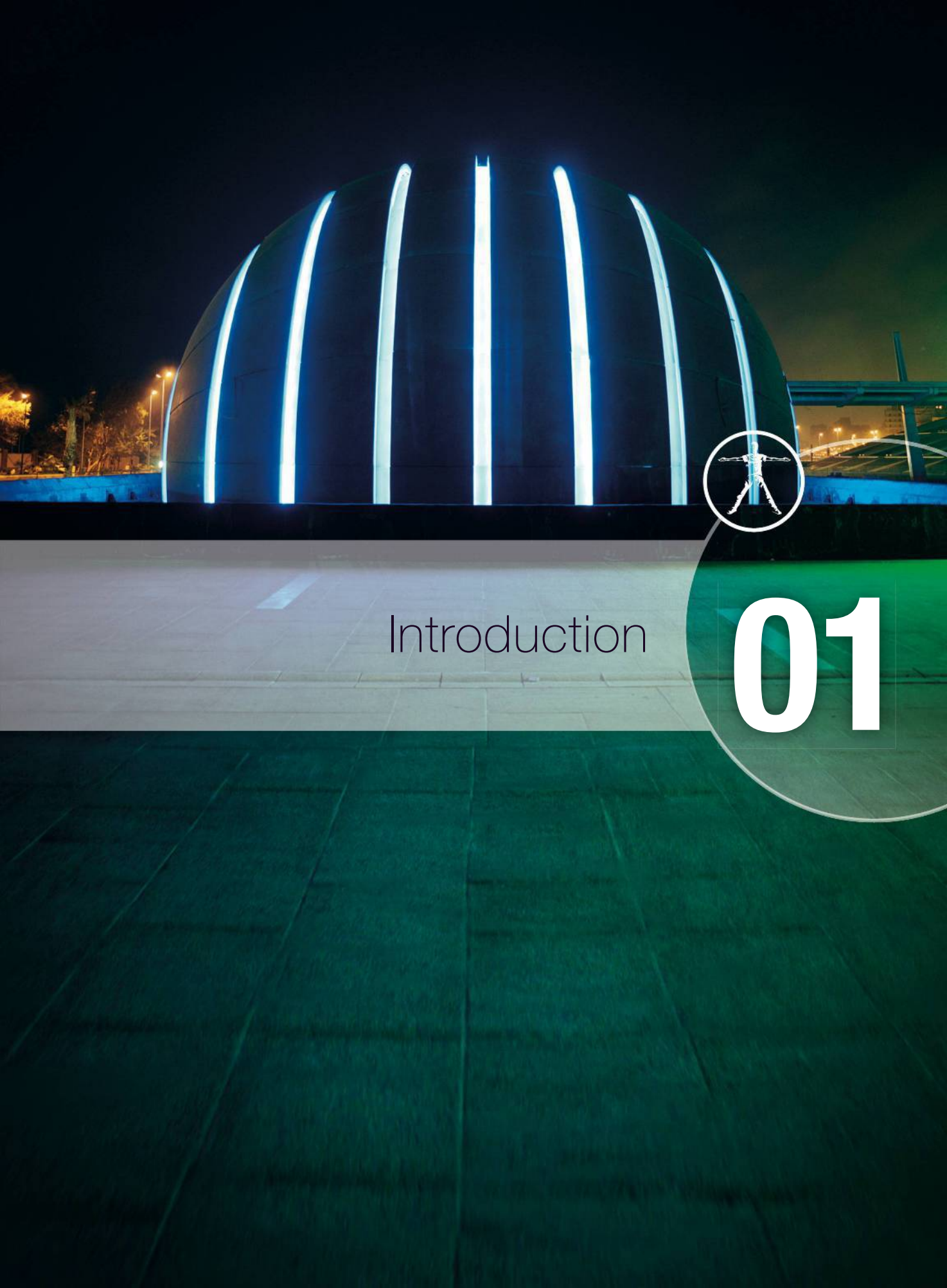
The co-authors of this book, three teachers of Theory of knowledge (TOK), love their subject in the same way. The word 'love' is used intentionally. They have a passion for this course, which is original to the International Baccalaureate, and feel blessed that they can teach TOK to hundreds of students. This emotion – which all good teachers possess along with their expertise – is called passion and should be courted in your own life as you go forward into college and university, and then out into the world to take up your professional responsibilities. Work that touches both your heart and your mind is the right kind of work for you, and will help you fulfil your nature.

Not meeting you face-to-face, it is unlikely that we can make a difference in your life in the way that the right teacher in the right classroom on the right day can, even though it is our hope and our ideal. Yet, we are speaking to you on these pages out of our deep commitment to TOK and the value of thinking about what we know and what we mean when we say that we do, and the different ways of putting this understanding to work in the world. In doing so, we understand once again why we chose teaching as our life's work and how special it is to have young people in our charge.

When we see your natural ability to think take a sharper edge, we all draw closer to the ideal of a liberal education – 'liberal' reflects something like its root meaning which pertains to freedom. Without sorting out all the ambiguities of the word, two of its meanings 'freedom *from*' and 'freedom *to*' can be mentioned: the freedom *from* total reliance on knowledge by authority and second-hand ideas, and the freedom *to* draw on the magnificent edifice of knowledge that has been built and shaped by countless others throughout the history of the human species. The delicate and sometimes elusive balance between these freedoms offers the prospect of thinking things through for yourself through a process of reaffirming, revising, refining, or even rejecting knowledge from diverse origins – everything you've learned, everything you've been told, and everything you've thought up yourself – and then to express those views with clarity and thoughtfulness. Few things feel better than to be able to stand up for yourself in front of others, and sway them with your position when you know what you think and why you think it.

It is the special mission of the IB to prepare young people to live within a pluralistic community of many voices, all possibly 'chattering' at once in every kind of boundary-crossing conversation of print, voice, and social media. You, our students, look to us to get you ready – we are your teachers. You are entitled to be prepared by us to comprehend the great world beyond your street, your neighbourhood, your culture, your nation, as a result of the expanded perspectives we arouse and shape in you. Some of this we have tried to do with our chapters in this book.

*Sue Bastian
Julian Kitching
Ric Sims*



Introduction

01

On previous page - Dome of the Planetarium of the Bibliotheca Alexandrina, Egypt. Its predecessor, the Ancient Library of Alexandria, was one of the largest libraries in the world containing a vast collection of books and scrolls. It is believed to have burned down 2000 years ago with the irretrievable loss of its collected world knowledge, including, it is thought, Hero of Alexandria's plans of the first ever steam-powered device.

1.1 Knowledge

What is knowledge? It seems straightforward enough. We all know roughly what it is to know and to be correct, to be wrong, to doubt, and to be only partially right. If you've thought about knowledge at all, you may hold some view close to what can be called the 'trivial pursuit' model. That is, knowledge is seen as facts that are more or less simple, discrete, non-controversial, and displayed through recall. This model is generated and confirmed by much of your school experience and, certainly, is exploited by TV game shows. People with a lot of this kind of knowledge are often called clever and those with less of it are often called something not so complimentary.

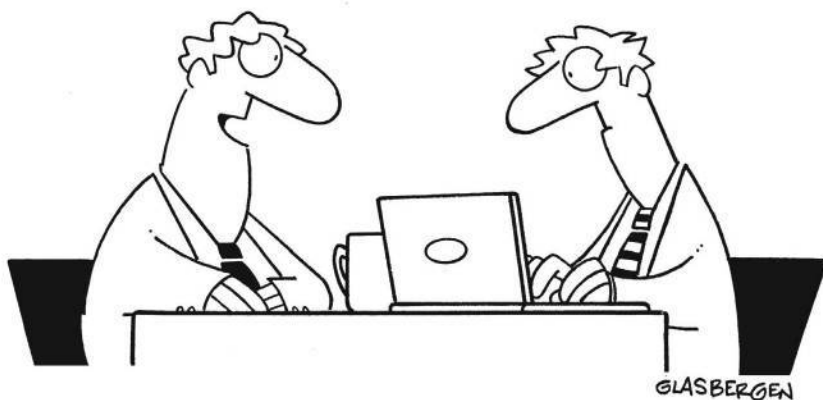
In the world outside the classroom, the **search for knowledge** never stops. Governments appoint commissions, armies rely on intelligence, scientists conduct research, doctors constantly retrain, teachers carry on with professional development, wrestlers study their opponents, journalists check their sources, musicians look for better ways to compose and capture an audience, philosophers clarify concepts, gamblers study the odds, and so on. We speak in slogans about *lifelong learning* or *learning how to learn* as qualities more valuable than acquiring a mountain of facts that may not be relevant when the time comes to use them.

In addition, people are increasingly inclined to find out what they need to know from all kinds of places, often online, and not necessarily with deference to experts who pronounce from on high. The ubiquitous student use of the Wikipedia open-source encyclopaedia on the internet is one of the most obvious examples, especially when compared to that of the leather-bound *Encyclopaedia Britannica*, once the pride of every middle-class home in the English-speaking world and the go-to source for every student research project. While expert opinions are still sought today, especially with the aid of Google and other search engines, it is often the individuals themselves who evaluate the various authorities and come to their own conclusions with or without consultation with experts. Everyone these days seems to consider themselves **arbiters of knowledge** – just ask doctors about their web-savvy patients who come into their offices with handfuls of printouts from the internet.

“In the Middle Ages we were told what we knew by the Church; later, after the Reformation and the printing press, by state censors, then the philosophes of the Enlightenment with their Encyclopedia, then by publishers and more recently by commercial broadcast media. In all cases it was by a small elite group of professionals. But now with the rise of the internet, all comers are invited to post their knowledge and express their opinions, and to rate the content of other people. This is the new politics of knowledge. It is decidedly egalitarian. This is where your critical thinking comes into play. How do you evaluate the tweets and texts and videos of people you don't know and have never heard of?”

Sanger, 2007

So here is the modern challenge as it is often presented: attention has replaced access as the limiting factor in the pursuit of knowledge. The skill of retention is not what is needed so much as the skills of discernment and discrimination. What best supports an argument or helps solve a problem? How can I ask the right question? Where do I go for the answer? How can I tell the difference between the reliable and the slipshod? The subjective and the objective? The biased and the fair? Those skills must be valued and practised; they are not inborn. So, at the very least we should ask: What are the sources and dependability of our knowledge?



“Some men are born great, some achieve greatness, and some have greatness thrust upon them by a friend who knows how to use Wikipedia.”

▲ Is Wikipedia a double-edged sword?

Wikipedia is a challenge to traditional teaching and learning, to the authority of the professor, the textbook, the library, the publishing house, the documentary video, indeed, every form of mediated knowledge vetted by some expert, real or imagined. Until recently, these were the only voices who said: this is good to read, this is knowledge, this you should consult, this you may footnote. Just imagine the difference between the textbook you are now reading and the same contents posted on Wikipedia. In just five or ten years, the paper version will be much as it is now in contrast to the online document which will have been either improved or tampered with depending on your point of view. Both have value.

Of course, we want all of our sources of knowledge to be as reliable as possible. Ideally, we would like to read an encyclopaedia, believe what it says, and arrive at knowledge, not error. According to one leading account of knowledge called *reliabilism*, the measure of knowledge is that it has been arrived at by a ‘reliable process’ (for example, a result obtained through rigorous scientific procedure) or through a reliable indicator (for example, the proper use of a calculator).

But reliability is a comparative quality. Does something have to be *perfectly* reliable in order to be reliable? To say that an encyclopaedia is reliable is to say that it contains an unusually high proportion of fact rather than error, compared to other publications. But it still can contain some error, and perhaps a high enough proportion of error such that you should never use just one reference work if you want to be sure and safe about your information. Are second opinions always to be sought if there is no perfect encyclopaedia?

Exercises

- 1 Do you think it is possible that there will be a perfect encyclopaedia some day? Would you know it if you saw it?
- 2 If there were a perfect encyclopaedia, could you get knowledge just by reading, understanding, and believing it?
- 3 Do you ever consider getting a second opinion on your second-hand knowledge in the way people sometimes do with medical care?
- 4 Do you think encyclopaedias should be free (like some on the internet) or should there be a subscription or purchase fee?

CHALLENGE YOURSELF

Compare the Wikipedia encyclopaedia movement of today with that of the *philosophes* of the Enlightenment in France in terms of their motives and successes in collecting all that humankind should know.

Discuss this statement: 'Wikipedia is not egalitarian in any admirable way if the equality of its sources results in a sloppy information architecture that gives everyone equal access to creating and receiving mediocre information'.

CHALLENGE YOURSELF

Do a little research on Sugata Mitra and Nicholas Negroponte. Shifts in how knowledge is produced and validated may be mirrored by changes in how it is distributed and used – some prominent individuals have started asking provocatively, 'Is knowing obsolete?' Is there a coming age in which no one will need to become an expert on anything – when anyone can perform as, say, a doctor or accountant simply by accessing relevant knowledge as and when needed rather than by going through a process of accredited training and induction into a professional community? If not, why not? If so, what kind of society do you think would emerge and what might be the implications?

The birth of such a rapidly successful phenomenon as Wikipedia is a valuable example of how knowledge comes to be organized by, and presented to, a mass audience. But for now, most of the debate swirling around the growth and use of Wikipedia is not its reliability, which according to several studies in recent years shows its error ratio to be just a hair below that of the *Encyclopaedia Britannica*, but that it initially had no special role for experts in its content production system. In fact, Wikipedia's defenders went so far as to say that expertise is not necessary, a commitment to a position that some call *dabblerism*. This goes against the view that special knowledge or credentials should give experts special authority in contrast to the wisdom of the masses. The professors in academia are often furious.

Of course questions arise. If Wikipedia ignores the need for expert guidance, how then does it propose to establish its own reliability? Either it does so from external reports (in which case it chooses authorities to establish its credentials) or its reliability may come from Wikipedia's internal contributors who form the benchmark for what is deemed knowledge. Is it too self-serving to maintain that knowledge is in effect 'socially constructed' by crowds, anonymous or not, whose credentials are irrelevant to their entries?

In summary, Wikipedia, in its infancy, is proud of its creed of *epistemic egalitarianism* which states that we are all fundamentally equal in our authority or right to articulate what should pass for knowledge. The only grounds on which a claim can compete against other claims are to be found in the content of the claim itself, never in who makes it. In fact, Wikipedia gives quite clear instructions for anyone who wishes to post original entries or to edit those of others.

Perhaps this vision of knowledge in the 21st century is mistaken, or at least incomplete. The origins of a vast quantity of knowledge are to be found within well-established academia, in the work of communities of historians, scientists, mathematicians, and economists, to name just a few – intellectual communities that lie half-hidden to the lay person behind the institutions that distribute and interpret the output of knowledge. If we are to understand what it means to know, we will need to examine the **systematic production of knowledge** alongside the ways knowledge is commodified in society, and the human attributes we possess that are receptive to it and have the capacity to extend it in an astonishing variety of ways.

1.2

Theory of knowledge: the big picture

As you open the pages of this book, it is important to say something about the title of the course and what it is about. First, you should note that the name 'Theory of knowledge' (TOK) is not meant to imply that there is only one theory about knowledge and that you should learn it. *Theory* comes from the Greek word for *theatre* – a way of seeing something – so in this course you will be looking at and thinking about knowledge from many different angles, from many different perspectives.

All the parts of the course radiate out from these two central and related TOK questions:

- What does it mean to say that I, or we, have knowledge?
- What is the basis upon which this knowledge rests?

Nowhere in the syllabus do we consider these questions on their own, but we do so in one way or another in the following chapters. Although the fullest understanding of TOK occurs only with the experience of the required 100 hours of thoughtful discussion, it will help to give a summary as we begin.

- TOK is a course that examines the origins, nature, methods, and validity of various areas of knowledge and ways of knowing, and how they relate to one another.
- TOK is a critical reflection on what students claim to know as personal knowledge and what they and others profess from the standpoint of shared knowledge in various fields of study.
- This spirit of inquiry is meant to bring about more appreciative ways of looking at the areas of knowledge and the ways of knowing.
- TOK asks that teachers and students get a feel for how important questions are in understanding the world and what counts as a good answer. Both should help you realize that sometimes to ask a real question is to take a risk or to start a train of thought that leads to a long and winding road.
- There may not be one right answer to a TOK question, but there are standards for judgement in the expression and defence of the answers that are offered. And some answers are better than others.
- Your ability to form good TOK questions and to provide good answers to them will ultimately be assessed in an externally marked essay written on one of six prescribed titles, and in an internally assessed presentation to the class.

But more important than any definition or summary of TOK are the habits of mind and character formed in the student from the experience of reflection on how knowledge is constructed and applied to the world's problems. It is the intention of the IB that all of its Diploma Programme students acquire the intellectual honesty and powers of judgement which are characteristic of genuine thinkers, and that these defining features will be emblematic of your IB education.

Exercise

- 5 Based on what you have read so far, role-play with others a 30-second sound bite in which you respond to someone in a university admissions office, or a summer job interview, or your uncle asking you, 'What is TOK, anyway?'

However, to use the time-honoured method of ruling out, we also need to say what TOK is **not**.

- TOK is **not** meant to prepare you to study philosophy nor to master other people's thoughts even though you will probably hear about these thinkers from time to time.
- TOK is **not** a course in current affairs, a general studies course, or a rambling session on the meaning of life even though discussion can begin from any of these topics.
- TOK is **not** a course where a teacher needs to have qualifications in a particular subject or where teachers must be the overall experts and have the last word (even though they may prefer to be the 'sage on the stage'), so there might be a new kind of provocative exchange between teacher and student.
- TOK is **not** a course that will give you seven points, but it is foundational for every Diploma Programme student. In fact, it is the only course of study that every IB candidate must follow. You may not understand fully why this is so until several years later when you need to think and speak across subject areas, or take cultural differences into account when addressing global issues.



What is wrong with this picture?

The best TOK teachers are those who are themselves reflective or curious about knowledge claims and who admit that most of the time we live in a world with only degrees of certainty. Yet we continuously must make decisions – some trivial, some of great importance – about what to think and what to do.

More immediately, TOK will give you a capacity of mind and a skill that will soon become apparent and beneficial in your higher education as well as for

years to come. Universities extol the virtues of TOK and students return to say it was the most helpful course for entering university even though they hadn't recognized it while they were sitting in their TOK classes week by week!

1.3 Theory of knowledge: the story

Imagine a group of idealistic men and women from several countries sitting around a table back in the 1960s asking, 'What should our young people know and be able to do by the time they graduate?' That's like asking, 'Why do we go to school?'

Now imagine yourself in a similar situation with a blank slate where you could design your own academic programme the way you can (up to a point) after you leave and move on to college and university. Would you include TOK? Before you could give an intelligent answer, you would have to know what it is, and what value it holds for you and for others.

It should be no surprise that the IB was born against the backdrop of the tumultuous decade of the 1960s, in which revolutionary ideas flourished and many societies underwent significant changes. And even though educational debates might lack the drama of the other movements of that era, there were radical notions at play in those early IB meetings. After all, those visionary pioneers were turning their backs on their own country's school systems in favour of an idealistic programme linked to world peace through international awareness, even compassion, and the highest academic rigour all of which was meant to be recognized by the best institutions of higher learning around the world (Figure 1.1).

But first the reformers needed a curriculum and an examination system independent of any particular culture or nation. The initial choices went smoothly. Because a mother tongue and a second language were obvious for an international diploma,

Pragmatic value

the best education for a mobile student population



Idealistic value

the best education for a better world

Figure 1.1 An idealistic programme of education

that was an easy decision. Next they quickly agreed on the need for science and mathematics; then at least one of several humanities or social science courses; and, finally, the arts was the finishing touch of a broad and balanced curriculum. And to make the IB a distinctive programme, rather than just a collection of courses – as was the case with the British A and O levels and the American Advanced Placements courses – the extended essay and CAS were added. Yet, to bring it all together, it was also crucial that there should be one academic course, a keystone course of study that unified the IB Diploma. But what should it be? History, poetry, music, global studies?

Exercises

- 6 Many students find it hard to realize that they can gain the IB Diploma without taking history over their two years of study. Why do you think this is so? What problems would be involved in mandating history as the central course for the IB? What does this say about the status of history as a subject?
- 7 But think again. History is singled out in the IB as one of the eight areas of knowledge and not folded into the human sciences. What does this say about the status of history? These are important TOK questions.

International agreements are not easy to reach. This reality emerged with the French insisting that every student should take philosophy and the British strongly vetoing the idea. The dispute was protracted but both sides at last seized on the idea that every diploma candidate should follow a course, not in philosophy as such, but in critical thinking based on the student's education to date. Thus, typical TOK questions include the following.

- What is distinctive about the knowledge produced by the sciences?
- On what bases can judgements about art be agreed?
- How are historical reports reliable?
- What is good evidence?
- Is there such a thing as an ethical fact?
- When do your feelings count as knowledge?

So, finally, TOK became the great compromise, and the basic design of the IB Diploma was complete. The last, as it were, became first, since today TOK is hailed as a unique feature of the IB programme and widely emulated by national schools for the quality of thought that it generates about the purpose, methodology, and findings of each discipline or field of study.

With TOK it was hoped that IB Diploma holders would not only gain a thoughtful awareness of the shared knowledge that the various disciplines codified about the world – to which students are exposed through their various courses – but also the way knowledge 'works in the world' and how it contributes to the perspectives held by individuals and groups.

Alec Peterson, pioneer of TOK, one of the founding fathers of the IB, its first Director General, and TOK teacher, saw three of the key aims of the course as counteracting specific weaknesses of many upper secondary schools.

- 1 The failure to make explicit in the minds of students the different forms which academic learning and knowledge take.** TOK heightens the awareness of the various disciplines and fields of study by organizing the course around what are called areas of knowledge and ways of knowing.
- 2 The tendency for students to study their different subjects in watertight compartments.** TOK reveals how multiple perspectives may be brought to bear on a single problem by relating science or history to art, or to make connections between literature and the human sciences.
- 3 The opportunity to understand the virtues and limitations of their education to date and to relate it to ordinary experience.** TOK asks that student bring their learning both in and outside the classroom to critical light as a way to make integrated sense of their school life.

What mattered to Peterson was not the absorption and regurgitation of facts, but the development of powers of the mind or ways of thinking that can be applied to new facts and new situations as they arise. Thus, the definition of an educated person is someone who knows how to apply knowledge of many kinds to novel situations for which there are no ready-made answers.

Exercise

- 8** Suppose you were head of an international committee searching for a solution to the problem of AIDS in your country. How many representatives of how many disciplines should you invite to the conference table? Would you want them to be International Baccalaureate alumni?

As is true with many historical perspectives, the early days of the IB programme look simpler from our viewpoint. There are currently dozens of courses on offer, an expansion of student response languages to include English, French, Spanish, German, and Chinese. There is Language A instruction in numerous languages, and courses ranging from well-known traditional disciplines such as physics, history, mathematics, and economics, to design technology, information technology in a global society, environmental systems and societies, world religions, and many more. But the core of the Diploma programme continues to comprise CAS, extended essay and TOK – all iconic of what has come to be seen as the finest international education in the world.

1.4

International mindedness

The IB is now nearly 50 years old. And yet in this relatively short time it has gained the respect of the best colleges and universities in the world for its academic rigour, generality, and depth – three qualities not easy to bring together.

But, as IB students and teachers, we have an additional challenge. We must pay as much attention to the *international* part of our name as to the *baccalaureate*, the

academic. This responsibility is paramount despite the fact that most schools and most students, it must be admitted, are concerned primarily with the 'B' of the IB, its academic side, in order to gain admission to the best colleges and universities.

Yet, it is not surprising that the IB has found the task of meeting its international ideals to be a complex one, even as its membership spreads to over 3400 schools in 145 countries. First of all, there is the semantic difficulty of defining what is an international education. What makes an organization international? What makes a school international? What makes a syllabus or a classroom or an exam international? Do we know it when we see it, or do we know through intuition or analysis? This is a good TOK question in itself, and one that ought to be kept in mind as the pages of this book are turned. How many answers to this question are acceptable? Over the years, the following have been put forward as features of international education:

- a diverse student body
- a diverse faculty
- a myriad of feasts and festivals
- second and third language requirements
- a foreign exchange programme
- global studies.

All of these qualities are worthy but, on their own, they do not produce young people who have learned to see through the eyes and hearts and minds of others. Nor do such bits and pieces of education totally prepare you for a world where current geographic and political boundaries and economic assumptions are being replaced by new realities, and where values, sometimes not your own (whatever they may be), are central to all decisions of global significance.

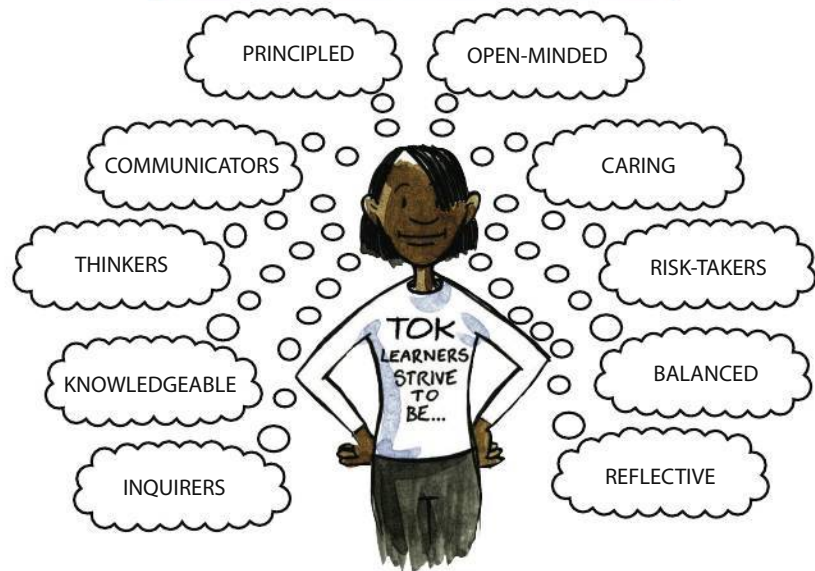
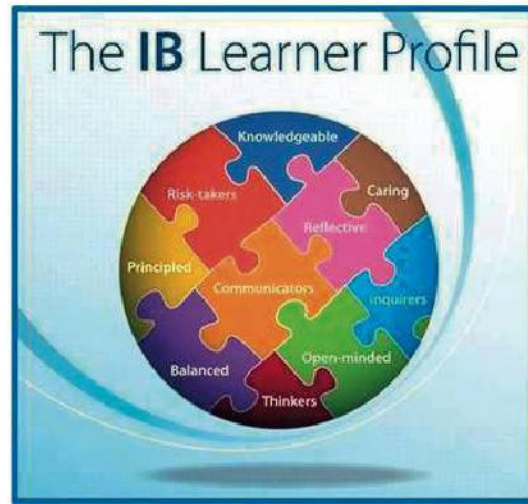
Yet, the concept of an international or a global education is not new. Are the terms *international* and *global* synonymous? Read the passage below by Michel de Montaigne, writing in 1572:

“Mixing with the world has a marvelously clarifying effect on judgement. We are all confined and pent up within ourselves and our sight has contracted to the length of our noses. When someone asked Socrates of what country he was, he did not reply, of Athens, but of the world. This great world ... is the mirror into which we must look if we are to behold ourselves from the proper standpoint.”

Montaigne, trs. Cotton, 1580

International education did not catch on in the 16th century, and Montaigne may have been well before his time when he put his finger on the need to regard ourselves as members of groups that stretch well beyond what may be our own 'comfort zones'. But in recognition of the importance of this dimension to the IB mission, the organization has responded by drawing up a learner profile, expressed in terms of an IB community that should apply to all who are involved in the business of international education. In brief, IB learners should strive to be 'internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world'. They would do this through the adoption of the attributes in Figure 1.2 (overleaf).

Figure 1.2 Attributes of IB learners.



What's your learner profile?

Are these features familiar or even clear to you? Can you identify them when you see them? Can you recognize them in yourself or in the groups to which you belong? How many have you noticed since breakfast this morning? What are their opposites? Ignorant? Closed-minded? Selfish? Apathetic? Extremist? What else?

Let's try to apply these ideals of the learner profile to the TOK student.

- **Inquirers** – We as TOK knowers seek to be learners who can work both independently and with others. Inquiry is the flame that lights our intellectual journey as we explore the various ways of finding out about the world.
- **Knowledgeable** – We as TOK knowers acquire an understanding of knowledge at a conceptual level across disciplines. We connect this knowledge with issues and ideas that have local and global significance.
- **Thinkers** – We as TOK knowers seek to reach reasoned and ethical decisions using critical and creative thinking skills. We are receptive to the knowledge of the disciplines, yet we maintain a healthy scepticism about absolute truths.
- **Communicators** – We as TOK knowers often take a collaborative approach to knowledge. We are able to use the vocabulary of the TOK programme to make comparisons and contrasts across areas of knowledge and ways of knowing.

- **Principled** – We as TOK knowers demonstrate a respect for the perspectives of diverse individuals and groups on the basis of integrity and honesty. We uphold fairness and justice as important concepts in decision-making.
- **Open-minded** – We as TOK knowers develop the habits of mind that come from an appreciation of the perspectives and values of groups other than our own. Yet we retain a critical appreciation of our personal and cultural traditions and values.
- **Caring** – We as TOK knowers seek the habits of heart and mind that nurture a sense of compassion and empathy towards others and towards the environment. We understand that knowledge can have an emotional component.
- **Risk-takers (or courageous)** – We as TOK knowers approach uncertainty with confidence. We engage courageously in the challenge of unfamiliar academic territory with a readiness to learn new ideas and strategies.
- **Balanced** – We as TOK knowers understand the importance of balancing the intellectual aspect of our lives with the physical, spiritual, and emotional in order to achieve well-being for ourselves and others.
- **Reflective** – We as TOK knowers are aware of ourselves as possessors of knowledge. We are conscious of the power of self-evaluation in measuring the strengths and limitations of what we know and how it should be used.

Exercises

- 9 How does the prospect of upholding these attributes and values strike you at the beginning of your TOK journey?
- 10 Could you identify your own TOK learner profile and create a bar chart of your prominent attributes?
- 11 You may think that the learner profile is only about students, but it was fairly clear that the framers of the learner profile meant teachers too. They are also meant to exhibit such qualities. Can you find your teacher in this list?

But even more astounding – to the degree that we have these qualities, we are *ipso facto* internationally minded. That bears some thinking about. It doesn't just say if you have a multicultural faculty or classroom, or if you teach this and that in your programme, or if everyone knows two or three languages, or if you celebrate Taco Tuesday, that you have achieved international mindedness. But by logical extension, it *does* say that schools in Denver, Colorado; Copenhagen, Denmark; Santiago, Chile; Jakarta, Indonesia; or Abu Dhabi, United Arab Emirates with largely local populations can be *internationally minded* as much as a United World College with 80 different nationalities. How can this be?

Exercise

- 12 What would be your opinion about this breakaway definition of internationalism if challenged? Could you defend a view about the value of international mindedness to the more parochial or xenophobic groups you encounter?

Is international mindedness as a way of being in the world impossible? Not at all. Idealistic? Certainly. But we need our ideals in this young organization whose future is brighter than its history is long. (Fifty may seem old to you, but think about it on a history timeline and you can see that it is still new and still innovative.) We have to keep saying over and over what we are about – to remind ourselves of our ideals. In a way, an educational programme is a movement suffused with ideals and values. You have joined this movement consciously or not. And any movement needs many voices. The IB needs your voices for a better world.

Exercise

- 13** Have you any notion of the philosophy or mission of the IB or have you signed up only for your own purposes? Does the notion of an educational movement seem strange to you? How is the idealism of the IB in its pioneer days still vibrant?

The IB mission statement

“The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.”

But in order to become part of a working international community and to be glad of it – not just words on the school bulletin board – an IB education, and by implication the TOK course, must include activities and ideas that encourage awareness of and commitment to the solutions to global problems of a cast and character possibly widely different from what we can now imagine as our own.

In a real sense, then, you have the whole world in your hands. We are asked to think today and tomorrow and on and on about how our teaching and learning can be relevant to issues of global significance that you face now, and others that we and you can see only dimly, if at all. You know the list – war, environment, poverty, terror, energy, global warming, and so on. It's a long list. It touches us all. But it is you who can dispel indifference and ignorance; it is you who can broaden horizons. It is you who can find unity in diversity, hear its message, and sound its echo. We teach. We make a difference. You learn. You can make that difference happen. TOK will go far to prepare you. This book is one of the steps in this hopefulness.

1.5

How to use this book

In this book, authored by experienced TOK teachers, we have set out several organizing principles and metaphors to illuminate the construction of knowledge and to help you understand and appreciate what a rich, complex, variable, and difficult process it is to separate the best we can know from the dross all around us. As a start, we list here the fundamental TOK themes and concepts in an introductory way. The chapters to follow are dedicated to their expansion.

Concepts of shared and personal knowledge

We live in a world overflowing with knowledge, a great deal of which is organized into academic disciplines. Much of this knowledge is, at least in principle, available to us if only we had the time and the inclination to explore and acquire it. The many demands in our lives and the brute fact of our mortality dictate that we will come into contact with only a small fraction of this shared knowledge, although even that fraction will exert a profound influence on each of us. What we do succeed in extracting from this reservoir, together with much of what we know about ourselves and what we know how to do constitute our personal knowledge. Each day in your life is an adventure in interaction between these two domains, and the arc of the book to some extent takes us from personal to shared and back to personal again (Figure 1.3).

Areas of knowledge

For the purposes of TOK, the academic disciplines are organized according to relationships between them. Sometimes the similarities prevail and we get a group of disciplines; sometimes the differences dominate and the discipline retains its independence. The overall result is eight areas of knowledge: the natural sciences, the human sciences, mathematics, history, the arts, ethics, religious knowledge systems, and indigenous knowledge systems. These areas are explored in depth in eight consecutive chapters of this book – Chapters 4 to 11. In your TOK course, it is expected that you will study six of these areas.

A knowledge framework

A primary concern of TOK is the comparison of different areas of knowledge so as to explore such aspects of them as their scope and applications, the key concepts and methods that they use, how their development might have influenced their nature, and the roles of individuals and communities in how they produce knowledge. To make this task clearer and more rigorous, this book uses a tool called the knowledge framework. This is introduced in Chapter 3, and provides the structure for the subsequent chapters on specific areas of knowledge.

Ways of knowing

Underlying the methodology of the areas of knowledge and also providing a basis for personal knowledge, eight ways of knowing are presented in TOK. These can be regarded as tools for the acquisition of knowledge, or perhaps attributes that define to some extent the nature of being human. They are:

- sense perception
- emotion
- memory
- reason
- imagination
- faith.
- language
- intuition

Your course will probably focus on four of these eight in depth, although it is likely that all of them will get a mention at some point. This is partly because these ways of knowing work together rather than in glorious isolation. All of the ways of knowing

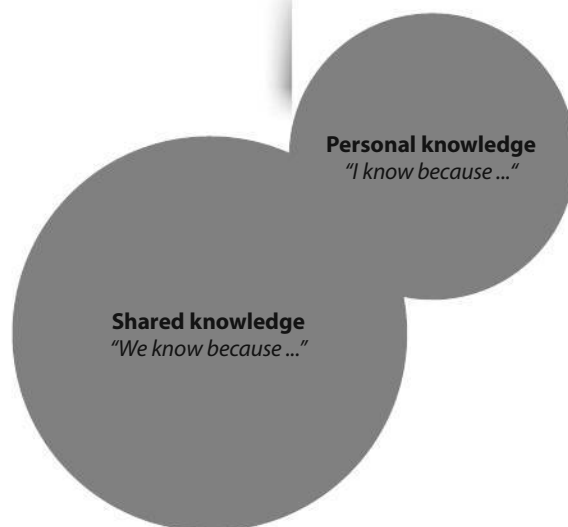


Figure 1.3 Shared and personal knowledge.

are introduced in Chapter 2, and they will make appearances throughout the rest of the book – particularly in the return to the relationship between shared and personal knowledge in Chapter 12.

Metaphors

Also, running throughout the chapters are a couple of metaphors:

- knowledge as a map
- disciplines as cultures.

These are discussed in greater length in Chapter 3 and thereafter.

Knowledge as a map

As maps usually have practical purposes, the idea of knowledge as a map representing some aspect of reality helps us to think of knowledge as the attempted solution to some problem, or the answer to some question. The fact that a map cannot ever be exactly the same as the territory it represents, and may be modified according to the purpose for which it is to be used, also encourages us to think of knowledge in terms of whether it is ‘fit for purpose’.

Disciplines as cultures

Outside the classroom and the university halls and laboratories, men and women on TV news and talk shows, in criminal and civil trials, in popular and professional publications, often identify themselves as belonging to a particular field of study or research. They have spent years gaining credentials within their disciplines to mark them as specialists from whom the public can learn. As individuals they have contributed to these shared knowledge fields, and, in turn, they learn from the others in their community of knowers. This reciprocity is part of what makes these disciplines dynamic.

It is crucial to your success in TOK that you understand what a discipline means, since the course is organized, in large part, around the areas of knowledge. In order to get a feel for what a discipline is in reality, it may help to think of it metaphorically as a culture. That is, a discipline is constituted by its practitioners as well as its shared norms and body of knowledge. And if we think of a discipline as a social group, there will be leaders and followers and cliques all performing their scholarly work according to well understood written and unwritten rules, acquiring knowledge, explaining it, and defending it (disputes within a discipline are endless). While there is always a body of core knowledge that is accepted within any discipline, there are also people working at the cutting edge of research, thinking new thoughts, debating the issues of the day, and publishing their work in the magazines or periodicals associated with each field of study.

Knowledge questions

The key activities of TOK are the formulation and answering of questions about knowledge. For example, we might ask the following questions.

- To what extent is disagreement a vital part of scientific methods?
- How important is the role of imagination in the production of knowledge?

- What counts as evidence, and to what extent does this vary across areas of knowledge?
- Is artistic knowledge a form of knowledge that cannot be expressed in any other way?
- What knowledge is completely independent of ethical responsibilities?

What is important to remember about knowledge questions is that they ask directly about the nature of knowledge, are open to the extent that different answers could plausibly be offered, and are framed using the kind of vocabulary and concepts that relate directly to the TOK course. They are also general enough to permit a variety of examples to be employed in responding to them (Figure 1.4).

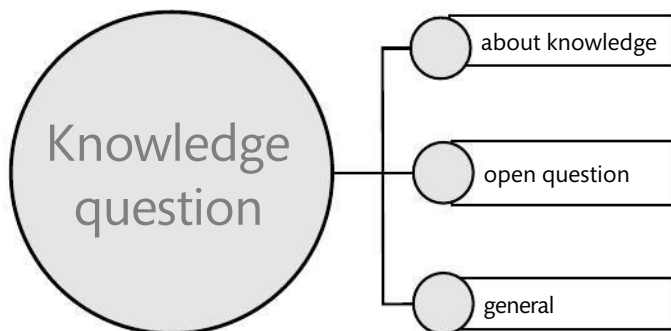


Figure 1.4 Structure of a knowledge question.

Such questions may seem mind-boggling when encountered in the abstract, but the themes and concepts presented above are designed to ‘domesticate’ them, and the chapters that follow will provide reassurance by offering examples of them in context and, in some cases, setting out responses.

Assessment

Chapter 13 discusses assessment and is of immense importance for both student and teacher in coming to understand how to achieve the highest standing for the highest quality of effort on the part of everyone involved.

This book represents a both a journey and a narrative arc for you to follow (Figure 1.5)

This shared knowledge takes many forms depending on its subject matter and purposes (areas of knowledge). It is worth exploring these forms and comparing them in order better to understand them and see how they impact our lives – collectively and individually (Chapters 4–11).



We live in a world of rapidly shifting possibilities for knowledge (Chapter 1). Although I feel that I own my faculties for constructing and understanding knowledge (ways of knowing), I also know that they define us collectively as human beings (Chapter 2). Because we all have basically the same mental equipment, knowledge can be shared and organised systematically such that many can contribute to it (Chapter 3).

While we may have the opportunity to make contributions to knowledge, the vast structure of shared knowledge deeply influences my life as an individual, so the nature of this two-way relationship needs to be explored (Chapter 12). What does it all mean for me? In the end, I need to be able to express my understanding of these matters publicly and coherently for others to judge (Chapter 13).

Figure 1.5 The TOK journey.

Printed, online, and electronic materials

This book is available in print and eText. The eText version can be accessed by going to the Pearson eText homepage and using your login details. The print version does not contain the bibliography, but this is available on the eText. Answers to some of the mathematics questions in Chapter 6 are also available on the eText.

Throughout this book are scattered a number of margin boxes with suggestions for internet research and advising weblinks to get you started.

You will also find many in-text exercises and a number of Prescribed Essay titles and practice essay titles. It is intended that you should attempt the exercises as you come to them in the book, and that you carefully consider your responses to essay titles also as and when you come to them in your reading.

A note about dates

Within this book, we use the common era / before common era (CE / BCE) system of dating. However, some dates in quotations use the AD / BC system. Don't let this confuse you, simply substitute CE for AD, or BCE for BC.

1.6

The TOK ideal knower

Students come to us at the beginning of the year having studied something of great human significance in art, literature, the sciences, maths, and history – a range of subjects. Experience is then deepened with the exposure to new, challenging, and relevant ideas from other disciplines, other groups, or a voice not previously heard. They internalize a feeling for more than one way of seeing the world. They find their voices in discussion with others. They know the limitations of any single voice. They are immersed in a community of intercultural and interdisciplinary thought. They have begun to master the skills of integrating these diverse perspectives because they know what counts as a good question and the beginning of a good answer. And they know that a question can be asked with admiration and awe as well as from challenge and confrontation. They are comfortable with ambiguity and prepared to live in a world of uncertainty. They sense when action or restraint in judgement is called for. They are comfortable in disagreement and poised in conflict.

This is our splendid instance, a portrait of a young person with empathy, with openness to growth, glad for the stimulation of new ideas, and with an appreciation of differences. All of this has become part of their instinctive response to novel situations. They are ready to take the next step. They are ready to graduate.



Ways of knowing



02

On previous page – How do we decide which path to take when faced with several options? Do we resort to intuition or reason?

Reading is not a simple matter.

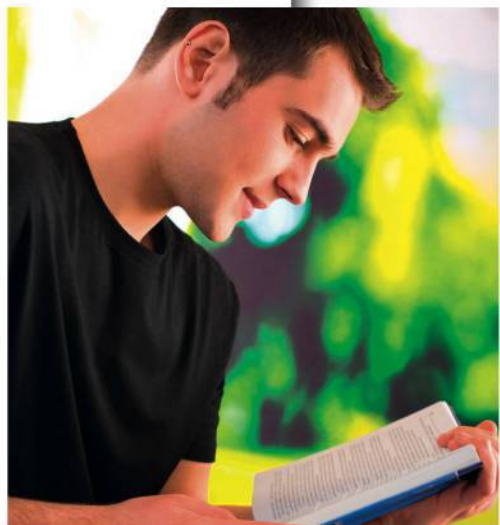


Table 2.1 Reading and WOKs.

2.1

Introduction to ways of knowing

What do we mean by ‘ways of knowing’?

Think for a few moments about what is going on as you open this page. As you’ve done so many times before, you perform the act of reading with eye movements following marks on the paper in a conventional sequence. Light reflected from the marks enters your eyes, is then converted (transduced) into signals that reach your brain. You generate meaning from the encoded electrochemical trace of the marks, using learned associations between the marks and corresponding thoughts (and sounds). You trust that these sequences of meanings bear some similarity to those intended by the

authors. The speed with which all of this takes place, and the depth of concentration which you bring to it, may be affected by what has happened to you in the recent past and your feelings about those events, including what is going on around you right now.

Presented in this form, your success in reading and understanding this page seems an astonishing achievement – almost miraculous. And this task is just one of many that we perform every day – think about listening to music or cooking a dinner. In order just to begin to understand what is going on, it is tempting to break this complexity down into elements, which in the TOK course we call ‘ways of knowing’ (WOKs). Let’s see how helpful it might be to try to work out which aspects of the description in the previous paragraph could be matched with the WOKs in Table 2.1.

Identifying ways of knowing

Exercise

1 Try completing Table 2.1.

WOKs	Aspects of reading
Language	
Sense perception	
Reason	
Emotion	
Intuition	
Memory	
Imagination	
Faith	

- How many of the WOKs did you manage to trace back into the account of reading the book?
- What difficulties emerged with this task?



One problem that you probably identified was that in some cases it is difficult to see where one WOK stops and another starts. For example, the act of *sense perception* is closely bound up with previous experiences stored in *memory*. *Reason* has a role in the construction and comprehension of *language*, which often relies on the *imagination* of the reader to ‘fill in the blanks.’ Completing Exercise 1 might have been facilitated by a recognition of its value (*emotion*) and underneath it all, perhaps, was an act of *faith* that you were doing it all in the right way. Was *intuition* left out? Maybe yes, maybe no: it is not easy to sort out the WOKs into individual elements because they work seamlessly together most of the time in real life.

It’s not too difficult to see from this example how the WOKs whirr away in our minds – simultaneously, interdependently, often working together, sometimes in tension or opposition with one another. How hard-pressed we would be to turn them off!

Ways of knowing as tools

Broadly speaking, WOKs are mental faculties that play a role in our coming to know all that we as individuals know or think we know on the personal level (Figure 2.1).

“ We know ourselves as individuals, but we also know that what goes on inside ourselves is almost exactly what goes on inside everyone else. We recognize the whole of the human race within ourselves. ”

Bronowski, 1979

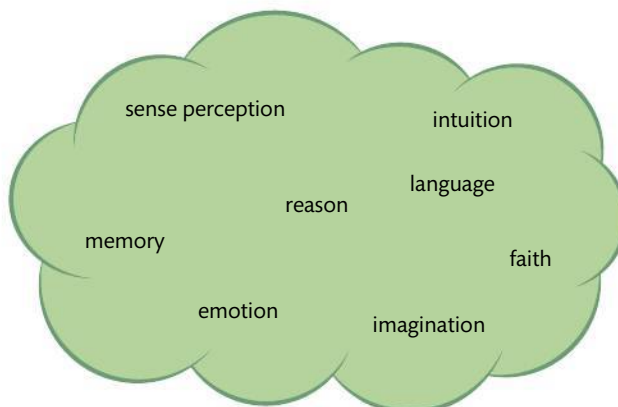


Figure 2.1 Eight WOKs.

In another sense, WOKs are part of our identity as humans – members of a species that constructs shared knowledge. The similarity of what goes on inside us all greatly enhances the prospects for shared knowledge. Knowledge of a propositional nature can be shared through the same language community, while an even wider pool of knowledge results from the common ways in which we as seekers of knowledge approach the processes of finding it out and sharing it with others. Figure 2.2 is intended to promote a consideration

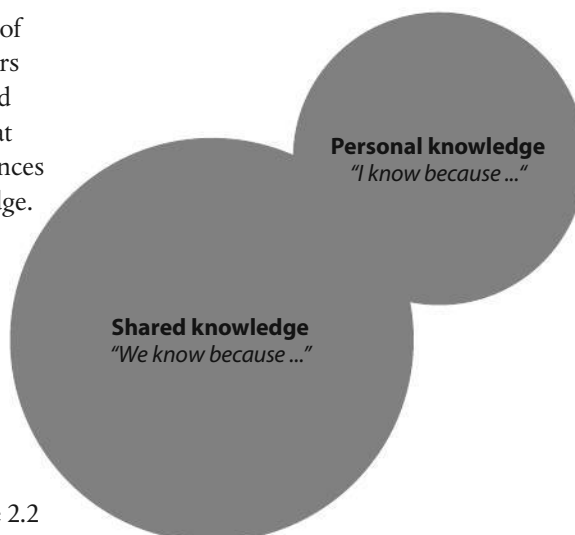


Figure 2.2 Personal and shared knowledge.

CHALLENGE YOURSELF

Most TOK students are on the cusp of driving a car on their own, thinking about it or taking instruction. Make a list of the WOKs going on (perhaps sub-consciously) as you drive your family car for the first time to the airport to pick up your mother.