

Ways of knowing

What this guide calls “ways of knowing” are often so automatic that it is hard to stop the process, as it were, in order to consider them carefully. The senses, through perception, seemingly provide a window on the world as it really is, and the emotions drive us onward without always giving time for reflection. Additionally, the acquisition of a first language occurs so easily for most people, and communication with others is so natural, that the influence of language in shaping thought is not obvious. Finally, a sound argument can be recognized as such without any formal training in logic or other forms of reasoning.

The questions that follow are intended to stimulate and guide reflection about these and related issues. While these four ways of knowing are the focus of this section, this should not be taken to imply either that there are only four ways of knowing, or that everything is known solely through one or other of these four ways (it may be useful to explore what other ways of knowing there might be, and how the various ways interact and overlap).

Sense perception

Do androids dream of electric sheep?

Philip K Dick

We perceive the world through our five senses: sense perception is the active, selective and interpretative process of recording or becoming conscious of the external world. Because sensory perception is an important dimension of our understanding of the world, its function and scope should be examined and critically evaluated. The following questions may help students become aware of the nature and power of sense perception, and how it relates to knowledge acquisition, knowledge claims, and their justification.

Nature of sense perception

- In what ways does the biological constitution of a living organism determine, influence or limit its sense perception? If humans are sensitive only to certain ranges of stimuli, what consequences or limitations might this have for the acquisition of knowledge? How does technology extend, modify, improve or restrict the capabilities of the senses?
- What possibilities for knowledge are opened to us by our senses as they are? What limitations?
- Is the nature of sense perception such that, as Huxley suggests, sensations are essentially private and incommunicable?

By its very nature every embodied spirit is doomed to suffer and enjoy in solitude. Sensations, feelings, insights, fancies—all these are private and, except through symbols and at second hand, incommunicable.

Aldous Huxley (1954)

Importance and limitations of sense perception

- To what extent do our senses give us knowledge of the world as it really is?
- Does the predominance of visual perception constitute a natural characteristic of our human experience or is it one among several ways of being in the world?
- What is the role of culture and language in the perceptual process? Given the partially subjective nature of sense perception, how can different knowers ever agree on what is perceived? Do people with different cultural or linguistic backgrounds live, in some sense, in different worlds?
- How, and to what extent, might expectations, assumptions and beliefs affect sense perceptions? How, if at all, can factors that bias our views of the world be identified? Is all sense perception necessarily theory-laden? Do knowers have a moral duty to examine their own perceptual filters?
- It is often claimed that information and communication technologies are blurring the traditional distinctions between simulation and reality. If this is so, what might be the consequences?

Linking questions

- To what extent is visual perception in particular a justifiable model not only of all sensory perception but of human understanding as well (in English, “I see” often means “I understand”)?
- What is the role of sense perception in the various areas of knowledge, for example, history or ethics? How does it differ across the disciplines? Is it more important in relation to some disciplines than others? Is there any knowledge that is completely independent of sense perception?
- Does sense perception perform fundamentally distinct functions in the arts and the sciences? To what extent does the artist make an advantage out of the subjective nature of sense perception, while the scientist regards it as an obstacle to be overcome?
- What can be meant by the *Panchatantra* saying, “Knowledge is the true organ of sight, not the eyes”? Is it necessary to have clear ideas to see?

Sense perception and areas of knowledge

- What role does observation play in the methods used to pursue knowledge in different disciplines? For example, are the conditions, function and results of observation the same for biology and human science? If not, what accounts for the differences?
- What role does what we expect to see, or are used to seeing, play in what we observe? For example, after learning about the structure of cells from a textbook, how “neutral” might the observation of a slide under the microscope be? Can we learn how to see things properly?

Language

Language exerts hidden power, like a moon on the tides.

Rita Mae Brown

Language is so much a part of human activity that it is easily taken for granted. The issues related to language and knowledge call for conscious scrutiny in order to recognize its influence on thought and behaviour.

Language can be thought of as a symbol system, engaged in representing the world, capturing and communicating thought and experience. Language also can be seen as existing in itself, as something to be played with and transformed and shaped in its own right and something that can transform and shape thought and action.

Nature of language

- What different functions does language perform? Which are most relevant in creating and communicating knowledge?
- What did Aldous Huxley (1947) mean when he observed that “Words form the thread on which we string our experiences”? To what extent is it possible to separate our experience of the world from the narratives we construct of them?
- In what ways does written language differ from spoken language in its relationship to knowledge?
- Is it reasonable to argue for the preservation of established forms of language, for example, as concerns grammar, spelling, syntax, meaning or use? Is one language common to the whole world a defensible project?
- What is the role of language in creating and reinforcing social distinctions, such as class, ethnicity and gender?
- What is the role of language in sustaining relationships of authority? Do people speak the same way to inferiors and superiors in a hierarchy? Does the professional authority speak in the same way as the person seeking opinion or advice? Can control of written language create or reinforce power?
- How does technological change affect the way language is used and the way communication takes place? How might innovations in language, such as Internet chat or text messaging, be assessed: as contributions to or assaults against how language and communication “should be”?
- What may have been meant by the comment “How strangely do we diminish a thing as soon as we try to express it in words” (Maurice Maeterlinck)?

Language and culture

- If people speak more than one language, is what they know different in each language? Does each language provide a different framework for reality?
- How is the meaning of what is said affected by silences and omissions, pace, tone of voice and bodily movement? How might these factors be influenced in turn by the social or cultural context?
- What is lost in translation from one language to another? Why?
- To what degree might different languages shape in their speakers different concepts of themselves and the world? What are the implications of such differences for knowledge?

Language and thought

- How have spoken sounds acquired meaning? What is the connection between the sounds and what they are taken to represent? Given that a word such as “tree” groups together a lot of different individual objects, what is lost in using language to describe the world? What are the advantages?
- Is it possible to think without language? How does language facilitate, extend, direct or limit thinking?

- To what extent does language generalize individual experience, classifying it within the experience of a linguistic group? On the other hand, to what extent do some kinds of personal experience elude expression in language?
- Can language be compared with other human forms of symbolic representation, such as conventionalized gestures, sign language for the deaf, dance, painting, music or mathematics? What might language share with these other forms in the communication of what we know? In what ways might it be considered distinct?
- How do “formal languages”, such as computer-programming languages or mathematics, compare with the conventional written and spoken languages of everyday discourse?

Language and knowledge

- How does the capacity to communicate personal experiences and thoughts through language affect knowledge? To what extent does knowledge actually depend on language: on the transmission of concepts from one person or generation to another, and on exposure of concepts or claims to public scrutiny?
- How does language come to be known? Is the capacity to acquire language innate?
- In most of the statements heard, spoken, read or written, facts are blended with values. How can an examination of language distinguish the subjective and ideological biases as well as values that statements may contain? Why might such an examination be desirable?

Linking questions

- To what extent is it possible to overcome ambiguity and vagueness in language? In what contexts might ambiguity either impede knowledge or contribute to its acquisition? Does the balance between precision and ambiguity alter from one area of knowledge to another?
- What do we gain, and what do we lose, when we name something? Do different areas of knowledge manage differently the balance between particularity and generality?

Language and areas of knowledge

- How do the words we use to describe an idea affect our understanding of the world? For example, is “globalization” a synonym for “westernization”? What is the meaning of the term “anti-globalization”? Does it matter which words we use?
- How does the language used to describe the past (for example, a massacre, an incident, a revolt) change history? Does something similar occur when different terms are used to describe natural phenomena (greenhouse effect, global warming, sustainable development) or human behaviour (refugee, asylum seeker)?
- How important are technical terms in different areas of knowledge? Is their correct use a necessary or sufficient indicator of understanding? The following illustrative examples relate to the Diploma Programme subject groups.
 - Group 1: metaphor, alliteration, onomatopoeia, synecdoche, genre, sonnet, haiku
 - Group 2: preposition, active/passive, pluperfect, genitive, creole, dialect

- Group 3: cost–benefit analysis, price elasticity, evapotranspiration, neo-fascism, push–pull technology, ontology, cognitive dissonance, enculturation
 - Group 4: symbiosis, allotrope, ergonomics, trophic level, entropy
 - Group 5: irrational number, asymptote, dot product, isomorphism, minimum spanning tree
 - Group 6: dynamic content, L cut, sonata, dramaturgy, trompe l’œil
- To what degree might each area of knowledge be seen as having its own language? Its own culture?

Reason

It has been said that man is a rational animal. All my life I have been searching for evidence which could support this.

Bertrand Russell (1950)

Reason is a way of knowing that involves different elements. In a very general sense, reasoning is a collective endeavour by which people construct meaning together by exchanging, modifying and improving their ideas and opinions. When someone makes a claim to know, it is legitimate to ask for reasons and to expect that these will be coherent. Arguments require consistency. Reason is perhaps as present in everyday decision making and problem solving as it is in mathematics, sciences and other areas of knowledge. The requirements of logical validity and rigour serve these various purposes.

In different degrees and in different ways, it is arguable that reason has its place in many, if not all, areas of knowledge as well as in the everyday experience of individuals and the groups to which we belong. It may be worth considering how reason is used in these different domains to discover and create, to articulate, to justify and assess knowledge claims. For when disputes arise, what is at issue is not only the substance or facts of the matter, but also the appropriateness of the reasons given for acceptance of the facts, and the validity of the logical procedures used in reaching the conclusion.

The questions in this section probe the nature, value and limits of reason, and the logic that many suppose is a shared standard of evaluation.

Nature of reason

- One of the roles traditionally attributed to reason is to find balance or equilibrium between two extremes. Is this idea still relevant as a description of the role that reason plays in the search for self-knowledge? What does it mean for someone to be reasonable?
- What is the difference between reasoning about means and reasoning about ends? Is one more prevalent or more valuable than the other?
- What is the role of reason in the creation and recognition of patterns in nature and in social life?
- Is reason purely objective and universal, or does it vary across cultures? Is logic purely objective and universal?
- Formal logic is the study of form in argument, irrespective of the subject matter. Is it really possible to study the logic of an issue independent of its content, and how beneficial is it to do so? Does the answer to this question depend upon the subject matter under consideration? Does it depend on the area of knowledge to which the subject matter belongs?

- What is the relationship between reason as a way of knowing and logic in its different forms (inductive, deductive, intuitive, natural)? Is it possible and worthwhile to “translate” everyday arguments into formal logical structure, and what might be lost in the translation? How does the commonsense use of “it’s logical”, meaning “it makes sense to me”, differ from its technical meaning of “it has a valid argument form”?

Reason and knowledge

- What possibilities for knowledge are created by reason? What are the advantages of being able to reason about something rather than, say, feeling something, dreaming about something, wishing something to be the case?
- Does all knowledge require some kind of rational basis?
- If knowledge claims cannot be rationally defended, should they be renounced? Is the answer to this question dependent on the area of knowledge of the claim?
- Can reason on its own, independent of sense perception, emotion and language, ever give us knowledge? Or are reason and language inseparable in the quest for, construction and justification of knowledge?
- What constitutes a good argument? What is the value of learning to distinguish between valid and invalid arguments?

Strengths and weaknesses of reason

- What are the advantages of discriminating between valid and invalid arguments, good and bad reasons, more or less persuasive reasoning, both for the individual knower and for society?
- Why are informal fallacies often plausible and convincing? When, where and by whom are they formulated? Are there circumstances under which the use of informal fallacies can be justified, for example, in public advertising campaigns aimed at persuading us to donate money for good causes (for example, humanitarian relief, children’s funds)?
- How can beliefs affect our capacity to reason well and to recognize valid arguments? Can they affect a person’s capacity to distinguish between fallacy, good argument and rationalization? What is the difference between a rational argument and a rationalization?
- What, if any, are the advantages of expressing arguments in symbolic terms? Are the ambiguity and vagueness of conventional language eliminated by this formulation?
- Are there some parts of human life or experience where reason has no real function?

Linking questions

- To what extent do you agree with André Gide’s view that, “L’illogisme irrite. Trop de logique ennuie. La vie échappe à la logique, et tout ce que la seule logique construit reste artificiel et contraint. *Donc* est un mot que doit ignorer le poète, et qui n'existe que dans l'esprit.” [Lack of logic annoys. Too much logic is boring. Life escapes logic, and everything built on logic alone is artificial and limited. *Therefore* is a word that the poet must ignore, that exists only in the mind.]?
- Susan Sontag said that, “Thinking is a form of feeling...feeling is a form of thinking.” Are they related in this way?

- How does the role of reason compare with the roles of the other ways of knowing? Why might some people think that reason is superior, and what consequences does holding this position have for the knowledge pursued and the methods considered appropriate in the pursuit?
- Does the role of reason affect the degree of certainty in, or the social status of, the various areas of knowledge? What are the implications of the answer to this question when disputes arise among practitioners and between cultures?
- Attempts have been made to identify universal, self-evident and incontrovertible laws of logic, such as the law of identity (for example, “an apple is an apple”) or the law of non-contradiction (for example, “nothing can be an apple and also a non-apple”). Are these actually laws in the scientific sense of the term, or are they axioms? How do logical axioms compare with axioms in mathematics, and with the underlying beliefs we take for granted in other areas of knowledge? What is the role of reason in ethical principles and their justification? Is reason more important to acting morally than other ways of knowing?

Emotion

[Emotion] has the advantage of being open to all, the weak and the lowly, the illiterate and the scholar. It is seen to be as efficacious as any other method and is sometimes said to be stronger than the others, since it is its own fruition, while other methods are means to some other ends.

Bhagavad Gita

Emotions play a powerful role in shaping thoughts, influencing behaviour, and steering the pursuit of knowledge. While emotions may be a key to self-understanding and to understanding the world, the extent to which they contribute to both can be explored through a discussion of questions like those that follow, probing the nature, value, and limits of emotion as a way of knowing.

Nature of emotion

- Can we ever know anything purely through emotions? How do emotions interact with reason, sense perception and language?
- To what degree is emotion biological or “hard-wired”, and hence universal to all human beings? To what extent is it shaped by culture and hence displayed differently in different societies?
- What sorts of things count as emotions? Are emotions and feelings the same thing?
- Can feelings have a rational basis? Is “emotional intelligence” an oxymoron? Robert Solomon says that emotions are “systems of judgments”, and that “virtually all of our experience is to some degree ‘affective’, and even our most dispassionate judgments...can be adequately understood only within some larger emotional context”. Is he correct in claiming that virtually all sense perception, and reasoning, must involve emotion?
- Is it possible to experience an emotion, a feeling, an attitude or sensibility that cannot be expressed in language? Can an emotion, such as love or grief, have its origins in, or be shaped by, language?
- Can emotions be trained? To what extent can we control our emotions, not in terms of how we act on them, but what we actually feel? Do cultures select emotions to foster and use?

- Are concepts such as solidarity, patriotism and racism examples of collective emotions?
- Is faith an emotion, a feeling, or neither?

Emotion and knowledge

- Does emotion reside in the realm of private knowledge in the sense that it cannot be verified by others? Can people be mistaken about their own emotions? Can others lead them to recognize previously unknown emotions?
- Is there any kind of knowledge that can be attained solely through emotion? Is the answer to the question dependent on factors such as gender, age, culture, and/or socio-economic group?
- Is emotion an essential ingredient of the pursuit or validation of scientific or artistic knowledge? Can there be creativity without emotion?
- Why has emotion sometimes been seen as a less valuable way of knowing than, say, reason? Or does the value of emotion as a way of knowing depend on the kind of knowledge that is being pursued?
- Susan Stebbing says, "I do not in the least wish to suggest that it is undesirable for us to be set on thinking by emotional considerations. On the contrary, nothing else will suffice to make us think to some purpose." David Hume claims that, "Reason is, and ought only to be, the slave of the passions." Is it true that emotions are an essential driver of any purposeful activity?

Linking questions

- What part does emotion play in the acquisition of knowledge? Does the role of emotion vary across the different areas of knowledge?
- Should emotion play a role in the evaluation of knowledge claims? Are there circumstances under which, in order to evaluate a knowledge claim, one should ignore or, alternatively, pay special attention to one's emotions?
- Is an action morally justifiable if it feels right? What part do, or should, emotions play in the formation of moral judgments or political judgments?
- Can emotions be classified as good or bad? Can there be correct, or appropriate, emotional responses? Is it correct to be horrified by accounts of torture?
- Is faith purely emotional or is it possible to provide a rational justification for religious belief? Is emotion a source of spiritual knowledge?
- Do people act their way into feeling or feel their way into action? What is the relationship between emotion and experience (for example, in CAS activities)?
- How did your feelings or emotions affect (positively or negatively) your ability to perform, to make decisions or to reason in regard to particular CAS activities? How did you deal with such situations?