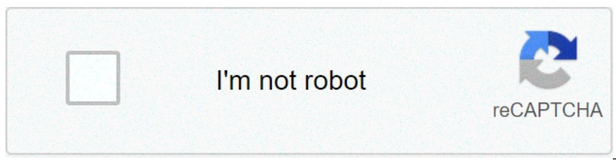

Continue

Ways of knowing and areas of knowledge

Ways of knowing exist individually; the use of one neither infers nor requires the use of another. They produce knowledge, which for the purpose of this essay will be defined as a justified true belief in which we understand the physical world. The ways of knowing accumulate knowledge by different means and often provide insight into different aspects of knowledge within an area of knowledge. Due to this, they are most commonly used within a network in order to provide greater overall knowledge; the use of multiple ways of knowing is more likely to allow for a deeper understanding of an area of knowledge. The different ways of knowing are not intrinsically linked, however, specific combinations occur frequently within certain areas of knowledge, such as sense perception alongside reason within the natural sciences. The prescribed title assumes that all knowledge gains are derived from networks of ways of knowing, however, it is my contention that both individual and networks of ways of knowing are used for gaining knowledge in the natural sciences and the arts. Despite this, the use of networks is not entirely the determining factor in knowledge gains. The ways of knowing used and their appropriateness and application to the area of knowledge are also vital to gaining knowledge. Many of the networks we use today are founded upon sense perception, in that sense perception derives the initial knowledge, and the other ways of knowing contribute to further the knowledge gain. From this, I developed the question: to what extent do networks founded upon sense perception impact our knowledge gains? Networks of ways of knowing are prominent in gaining knowledge in the the natural sciences, the branch of science which deals with the physical world. It is inclined towards sense perception for exploring knowledge due to the importance of observational data, and is often used in tandem with other ways of knowing, such as reason and intuition, to further explore the knowledge and establish networks. This concept is used within the scientific method, a globally accepted means of gaining knowledge in the natural sciences. Whilst no concrete method exists, it generally consists of testing hypotheses through data collection (sense perception) and analyzing results (reason and intuition) to find a relationship between variables . Knowledge in the natural sciences holds real-world significance if we can repeatedly test it and reliably observe the extent at which it conforms to hypotheses. The networks of ways of knowing used within the scientific method have proven to be vital for past discoveries, and are likely to remain prominent for current and future discoveries. One use of the scientific method was in Alexander Fleming's discovery of penicillin in 1928. Upon the chance discovery that mold inhibited bacterial growth in a petri dish, Fleming hypothesized that a strain of mold could prevent bacterial growth. Applying the scientific method, the hypothesis, based upon sense perception and reason, was tested experimentally and the results were analyzed and published. In 1940, Howard Florey and Ernst Chain further explored Fleming's discovery, repeating his experiment . It was at this time that the medicinal use of penicillin as an antibiotic was discovered. By the scientific method, and so keeping the core of the network as sense perception, both experiments focused their knowledge gains on observation and derived the same conclusions. Therefore, it could be said that using networks of ways of knowing founded upon sense perception to gain knowledge in the natural sciences increases the likelihood of accurate, concordant information. In a similar manner, the arts, the field pertaining to visual and auditory creative expression, feature networks of ways of knowing founded in sense perception. Although, as with the natural sciences, there is no set network of ways of knowing, sense perception is the foundation of each. For primary knowledge to be gained, the arts must be physically perceived. Given that we are all biologically similar to a significant extent, it can be assumed that different individuals will physically perceive things similarly. Despite this, the knowledge gained is heavily influenced by the other ways of knowing imposed by each individual, including emotion, memory, imagination, and faith. Therefore, even if our perception are comparable, we may not gain the same knowledge from a given piece of art. Likewise, two individuals with alike cultural, emotional, and psychological backgrounds are more likely to have similar perceptions and interpretations. Despite other ways of knowing used within a network influence the knowledge gain, in basing networks in the arts upon sense perception, a uniform observation of an art piece is established and the probability of deriving the same interpretation increases. On the other hand, networks of ways of knowing used within the natural sciences are not always founded upon sense perception. Theoretical branches of the natural sciences seek knowledge using reason because the concepts derived often cannot be tested within the capabilities of modern science. Using reason, our current collective knowledge can be extrapolated. If we found that a relationship between variables was constant for all tested conditions, we could deduce that the relationship would still be present beyond the limits of the tested conditions (although this is not always accurate and should not be profoundly trusted). Theoretical physics is a branch of the natural sciences which uses mathematics, as opposed to observation, to explain natural phenomena . This consists of occurrences that can currently be observed and also phenomena which is only theorized. One highly discussed topic within the field is string theory. This theory describes the propagation and interaction behavior of the theorized strings which constitute and connect fundamental particles . Through the use of complex mathematical concepts, such as mirror symmetry, the theory proposes knowledge which is beyond what can be observed with current technology. Likewise with other theories, the impacts of string theory in mathematics and physics would be significant if proved accurate, however, it is unlikely that it can be tested in the near future. It appears that using reason as the founding way of knowing within networks used to develop knowledge within the natural sciences can provide much deeper knowledge within the field. Despite this, the limited accuracy of its implications must still be considered until proved otherwise through observation. Alternatively, it can be interpreted that knowledge gains within the natural sciences are entirely independent of networks of ways of knowing. Empiricism is the theory which states that all knowledge is derived from sense perception alone . On the one hand, empiricism can be seen as vital as a source of knowledge in the natural sciences. Similar to the scientific method, relying upon sense perception creates knowledge which is likely to be more accurate that knowledge derived without any observations made. Whilst we can calculate and theorize using reason and intuition, the process of using perception to derive knowledge is considered infallible by some. For example, in nuclear and particle physics, the Higgs boson has long been theorized to be the last fundamental particle to exist. Whilst it was theorized for over forty years, the technology to create the necessary conditions to detect the particle were not established until the 21st century. Without the necessary technology, the scientific community was confined in that it could not say with certainty that the particle existed. Observations made in 2013 delimited the particles existence, confirming theory and allowing for more development in particle physics based on the concluded existence of the Higgs boson. In taking an empiricist approach, the knowledge gains in the field of particle physics maintained accuracy because they were derived only from reproducible observation. Although all knowledge in the arts must be derived from a network founded upon sense perception, the other ways of knowing used and the knowledge gained can vary. Due to the subjective nature of the arts, each individual can apply their own ways of knowing to a piece of art. A painting depicting a war scene, such as P Malcev's Storm of the Sapun Mountain which depicts soviet soldiers storming Mount Sapun during World War II, may inflict a response based in emotion and memory from someone whom was involved with the siege or a similar experience. On the other hand, the painting is more likely to derive an intuitive response from someone disassociated with the scene or settings of war. The emotional response is more likely to derive a response biased by the individual's personal relation, and thus knowledge gains within the arts are limited by the bia This article's tone or style may not reflect the encyclopedic tone used on Wikipedia. See Wikipedia's guide to writing better articles for suggestions. (August 2017) (Learn how and when to remove this template message) Part of a series on theInternational Baccalaureate IB Continuum Primary Years Programme (PYP) Middle Years Programme (MYP) Diploma Programme (DP) Institutions International Baccalaureate (formerly IBO) United World Colleges Lists List of people Curriculum Group 1: Studies in Language and Literature Group 2: Language Acquisition Group 3: Individuals and Societies Group 4: Experimental Sciences Group 5: Mathematics Group 6: The Arts Creativity, Activity, Service (CAS) Extended Essay (EE) Theory of Knowledge (TOK) vte Theory of knowledge (TOK) is a compulsory core subject of the International Baccalaureate Diploma Programme. It is marked on a letter scale (A-E) and aims to "provide an opportunity for students to reflect on the nature of knowledge, and on how we know what we claim to know."[1] Students who attain an E will not be able to receive their final IB Diploma.[2] Course description Theory of Knowledge is a course created by the IB organization and must not be conceived as pure epistemology. This course involves a process of exploring and sharing students' views on "knowledge questions" (an umbrella term for "everything that can be approached from a TOK point of view"), so "there is no end to the valid questions that may arise", "there are many different ways to approach TOK," "the sheer scope of the TOK course is daunting" and "teachers and students need the confidence to go too far outside their traditional comfort zones."[3] Teachers are entitled to select a teaching methodology and course material that will convey the theoretical foundation of essential concepts and may provide an environment in which these concepts can be discussed and debated. The focus of the discussion should not be the differentiation between "right" and "wrong" ideas but on the quality of justification and a balanced approach to the knowledge claim in question. The TOK course uses a combination, in no particular order ("many entry points and sequences are possible"):[4] Ways of knowing: (sense perception, reason, emotion, faith, imagination, intuition, memory, and language). Note that this is no longer mandatory in the new ToK course (first assessment 2022).How do we gain knowledge of the world, and what are the advantages and disadvantages of each way in which we learn of the world and our place in it. Until the fall of 2014, there were only four ways of knowing (sense perception, reason, emotion, and language, but the IB curriculum then changed to include four other ways of knowing: intuition, imagination, faith, and memory). Areas of knowledge (mathematics, natural sciences, human sciences, history, religious knowledge systems, indigenous knowledge systems, the arts and ethics): their distinct natures and methods of gaining knowledge, the types of claim each makes and the issues to consider (e.g., "How do you know that the scientific method is a valid method of gaining knowledge?", "What is the reason for having historical knowledge, and how is it applied in life?"). The IB originally had six areas of knowledge: mathematics, natural sciences, human sciences, history, the arts and ethics. In the fall of 2014, the IB curriculum changed to include two more areas of knowledge: religious knowledge systems and indigenous knowledge systems. Factors that transcend individual ways of knowing and areas of knowledge: Nature of knowing: what are the differences between information, data, belief, faith, opinion, knowledge and wisdom? Knowledge communities: what is taken for granted in a community? How can we decide which beliefs we ought to check further? Knowers' perspective and applications of knowledge: how do age, education, culture and experience influence selection of sources and formation of knowledge claims? If you know something, or how to do something, do you have a responsibility to use your knowledge? By using different types of AOK (Areas of knowledge) and WOK (Ways of knowing) you can then start to write counterclaims and claims in different types of texts. Justifications of knowledge claims: why should claims be assessed critically? Are logic, sensory perception, revelation, faith, memory, consensus, intuition, and self-awareness equally reliable justifications? Use of coherence, correspondence, pragmatism, and consensus as criteria of truth. The TOK course is expected to involve 100 teaching hours over the two years of the Diploma Programme.[5] Having followed the course, students should be competent to analyse knowledge claims and respond to knowledge issues in the context of different areas of knowledge and ways of knowing, expressing ideas accurately and honestly, using examples from their own experiences as learners and in outside life.[6] Personal knowledge is the systematic assimilation of shared knowledge acquired in different areas of knowledge through a process that vary within disciplines.[7] Shared knowledge is the accumulation of bodies of knowledge in different areas of knowledge, the media and society.[7] The Knowledge Framework is a scheme that contains five elements: scope and application, language, methodology, historical development and links to personal knowledge.[8] Course description for ToK first examination 2022 The Theory of Knowledge course has undergone some changes and now investigates five Areas of Knowledge (the Arts, History, Mathematics, The Human Sciences, The Natural Sciences), 12 ToK Concepts and four lenses of interpretation: Scope, Perspectives, Methods and Tools, Ethics. The 12 ToK concepts are Evidence, Certainty, Truth, Interpretation, Power, Justification, Explanation, Objectivity, Perspective, Culture, Values and Responsibility. One of the Optional Themes for the 2022 Course is Knowledge and Technology, where teachers investigate questions such as: Does technology allow knowers to access "the sum of all human knowledge"? And what would this "sum of all human knowledge look like"? Assessment Theory of knowledge is assessed in two parts: an externally examined 1,200–1,600 word essay and an internally assessed presentation.[9] Each part is scored using assessment criteria, which differ between the essay and presentation. The total score is converted into a grade from A to E. A similar system is used for the extended essay and students can gain up to 3 points for the diploma based on the grades achieved for TOK and EE. No diploma is awarded if a candidate fails to submit either the TOK essay or TOK presentation, or receives grade E for either the extended essay or theory of knowledge. IB Diploma Core Requirements - Awarded Points Matrix Theory of Knowledge Extended Essay A B C D E A 3 3 2 2 Failing condition B 3 2 2 1 C 2 2 1 0 D 2 1 0 0 E Failing condition Source: The diploma points matrix. May 2015 onwards[10] TOK essay For each exam session the IB prescribes 6 essay titles from which students must choose.[11] Each title raises generic cross-disciplinary questions about knowledge, and the student is expected to consider the issues raised in the title and reach conclusions about them. The essay should put forward claims and counterclaims, linking knowledge issues to areas of knowledge and ways of knowing,[12] and show evidence of original thinking by the student.[13] Essays over the maximum word count of 1,600 are penalised with a one mark reduction, and any content beyond the 1600th word of the essay is not read by the examiner.[14] TOK presentation (Last exam 2021) During the Theory of Knowledge course, students must plan and deliver at least one (in individual or small group, maximum three students) presentation to the class. The topic is based on a real-life situation of interest to the student, e.g. "Reliability of media reporting of science", "What makes something a work of art?" and the presentation is expected to show why the topic is significant, linking it to a relevant main knowledge question (KQ), and discussing those issues and examining the implications of approaching the question from different perspectives, given by WOKs (ways of knowing), and at least one AOK (Area of knowledge). Teachers have wide latitude to help with topic selection and identifying suitable approaches. About ten minutes should be allowed for each presenter.[15][16] TOK exhibition (First exam 2022) The TOK exhibition is a new assessment component implemented for all the candidates graduating in 2022 and after. It replaces the TOK presentation and bears the same assessment weight (33%). According to the new IB Guide,[17] the TOK exhibition explores how TOK manifests in the world around us by creating an exhibition of three objects (or images of objects) that connect to only one of the themes (either core or optional) and on only one of the 35 prompts provided within the new Guide. Each object must be accompanied by a written commentary. These 35 prompts are knowledge questions such as: What counts as knowledge? Who owns knowledge? Are some things unknowable? etc. See also Epistemology References ^ "What is the Theory of Knowledge". International Baccalaureate®. Retrieved 2020-11-20. ^ "IB Diploma Programme / Requirements". Earl Wooster High School. Retrieved 2020-11-20. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. pp. 3–4. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. pp. 6–35. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. p. 3. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. p. 5. ^ a b Theory of Knowledge Guide. Cardiff, Wales: International Baccalaureate Organization. 2013. pp. 17–33. ^ Theory of knowledge guide (first examinations 2015). International Baccalaureate Organization. April 2013. p. 28. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. p. 41. ^ February 2016 ^ "Core: Diploma requirements – 2 Theory of knowledge". 2009 Handbook of procedures for the Diploma Program. ibo.org. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. p. 44. ^ ""Help" with IB assessment tasks". ibo.org. Archived from the original on April 20, 2009. Retrieved 2009-08-11. ^ "Assessment Details". Theory of Knowledge guide. International Baccalaureate Organization. March 2013. ^ Theory of knowledge guide (first examinations 2008). International Baccalaureate Organization. March 2006. pp. 46–50, 57–60. ^ "Theory of knowledge presentation: Tips and Pitfalls". presentationexamples.org. 2016. ^ Theory of knowledge guide (first assessment 2022), International Baccalaureate Organization, Cardiff, 2020. Retrieved from "