

**INTERNATIONAL
BACCALAUREATE
DIPLOMA**

THEORY OF KNOWLEDGE

**EVALUATE THE ROLE OF
INTUITION IN DIFFERENT
AREAS OF KNOWLEDGE**

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1. Evaluate the role of intuition in different areas of knowledge.

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Evaluate the role of intuition in different areas of knowledge

Have you ever been in a situation in which you have been working scrupulously on a very tough problem, but even after repeated attempts were unable to solve it? But then, has it happened that in the next couple of days or even during the same day, when you were perhaps, taking a bath or watching television, the solution to that same problem struck you like a flash of lightning, as if out of nowhere? Well, I'm sure many of us must have experienced this and this is a lucid example of how the intuitive faculty of humans operates.

Intuition is a personal way of knowing which offers direct and immediate insight (*"like a flash ... an act of insight"* - Peirce¹) without conscious thought or judgment. It is considered to be a mysterious ability and this enigmatic nature results in it being used in different contexts. Therefore, reaching a clear-cut definition of "intuition" is itself a massive problem and this elusive quality of the definition is a crucial problem of knowledge as it encompasses the biases, uncertainties and limitations associated with humans while constructing the definition. Moreover, through intuition, one can only obtain subjective certainty, as it is based on an individual's subconscious perception and experience. This raises the problem of justification. Can the information gained through intuition be termed as "knowledge" when the immediate insights cannot be justified? Does intuition qualify as a way of knowing? This further emphasizes the uncertainty and the limitations of the claimed knowledge obtained through it. It has different roles in the various areas of knowledge. Well, in natural sciences, mathematics and arts, I believe that although it does not provide us with knowledge, it definitely provides us with a starting point which proves to be an asset in the

¹ Abel, Reuben. Man is the Measure. 1st. New York: The Free Press, 1976.

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pursuit of knowledge as “*Intuition will tell the thinking mind where to look next*”²; whereas in ethics and history, it can be regarded as adding elements of uncertainty and unreliability, to some extent, to knowledge of the past.

In the natural sciences, intuition is of significant importance in the creation of ideas which subsequently lead to the formation of theories. Intuition provides the scientists with new insights and creative ideas and the intuitive idea takes the form of a hypothesis, which is then empirically tested with the sole aim of proving the existing theories false. Furthermore, when a paradigm shift takes place, it is generally the creative, intuitive ideas of scientists that generate the revolutionary theories which supersede the previous ones. For example, Albert Einstein’s *Theory of Relativity* was completely revolutionary and his intuition played a crucial role in the formulation of this theory. In a lecture he gave at Berlin in 1918 he stated that: “*The supreme task of the physicist is to arrive at universal elementary laws from which the cosmos can be built by pure deduction. There is no logical path to these laws: only intuition, resting on sympathetic understanding of experience, can reach them.*”³ But special attention has to be given to the phrase “understanding of experience”. It has to be noted that although the process of intuition may not directly spring up from reasoning, but it is mostly based on the existing understanding and knowledge of the scientists.

Another case where intuition proved to be an asset in gaining knowledge is of Frederick Kekule’s discovery of the structure of benzene. In an intuitive flash while sleeping, he could see visual images of a snake coiling which provided him the idea of the closed chain or ring structure of benzene.⁴ Many would question if this was really intuitive, but dreams,

² As quoted by Jonas Salk: TOK Guide (first examination in 2008)

³ Woolman, Micheal. *Ways of Knowing*. 1st. Australia: IBID Press, 2000. Pg 223

⁴ See <http://p-i-a.com/Magazine/Issue19/Physics_19.htm>.

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imagination and inner visuals and voices are the vehicles through which intuition finds a form of expression. Even Archimedes's shout of "*Eureka!*" on solving the problem of checking whether the king's crown was made of real gold had its origins in his intuition as he got the idea suddenly while bathing. Hence, this direct insight free of immediate reasoning has helped in advancing the scientific knowledge that we possess today.

But it is extremely important to keep in mind that in sciences, intuition only helps in the first step of creating hypotheses; not in drawing conclusions. After the scientist's intuitive mind has provided an idea, empirical testing as well as reason and logic are enormously important to make generalizations and devise theories. In this way, intuition and reason complement each other which guides the pursuit of discovery.

Similarly in mathematics intuitions form a foundation on which mathematical knowledge is based. Most of the axioms⁵ are the outcome of a mathematician's creative and intuitive mind. If the process of infinite regress is applied to mathematical theorems, we reach the "*self-evident*" axioms on which math is based. For example, the truth of the *Zermelo-Fraenkel* axioms "*is established by intuitions which lie too deep for proof since all proof depends on them.*"⁶

In the field of arts, I think, intuition plays a greater role as the knowledge through arts is more personal than impersonal. Artists are intensely aware of their emotions as well as to the world around them, and their constant introspection and perception of the world leads to the formation of their intuition which gives rise to creative ideas. The intuitive faculty leads

⁵ Definition: A statement used in the premises of arguments and assumed to be true without proof. Nelson, David. *Dictionary of Mathematics*. 3rd. Penguin Group, 2003.

⁶ Woolman, Micheal. Pg 132.

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the artist into new ways of expression. Samuel Taylor Coleridge's writing of the masterpiece poem '*Kubla Khan*' when asleep reaffirms the proposition that humans are at their creative best when their minds are free from logical processes, that is when their intuition functions.⁷

What makes intuition more important in arts is that, apart from aiding in the initiation process of providing ideas, it can also aid the artists in the process of creating the art piece. For instance, a painter can know intuitively which colour is right to use or which pattern suits his piece better by an intuitive sense of recognition. But the other side of the argument is that this is extremely subjective to an artist's way of working. Rather than hearing his inner voice, an artist may prefer to use his reasoning to decide which colour or patterns to use to effectively communicate his emotions to the observers.

Mysticism is another area where intuition is perhaps, of the most significance. Mysticism is intuitive knowledge of transcendental nature. In this area, intuition is associated with spirituality; but the underlining aspect is still the acquiring of knowledge by immediate and direct means. For mystics, especially the Western philosophers like Spinoza, intuition provides a direct apprehension of the ultimate truth, without the use of reason. Buddhism teaches that there are two distinct types of knowledge (*vidyas*), of which the "higher" knowledge is acquired through intuition. This is a special, insightful kind of seeing that the Buddhists call '*prajna*' and through this they attain insight into reality that would not be obtainable by reason.⁸ Many Western poets such as Keats and Tennyson were also inclined

⁷ Woolman, Micheal. Pg 224.

⁸ See <<http://www.atheistsunited.org/wordsofwisdom/Nelson/buddhism.html>>.

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towards mysticism and they are known to have had “*flashes of rudimentary vision*”⁹ through which they used to have an apprehension of their poems.

Coming to ethics, one approach to moral judgments is through the use of intuition; although I believe that this claim involves certain flaws. Intuitionists say that a person may make moral judgments without any reasoning and only on the grounds of emotional intuition because humans have an innate faculty by which they can apprehend what is right and wrong. Sir David Ross, a British philosopher advocated that it is just “self-evident” that one should not hurt others¹⁰. To a certain extent, these intuitions are reinforced by the emotions of the person. This is because if a person intuitively believes murder to be morally wrong, then it means that he/she holds a negative feeling towards it and disapproves of it. Therefore, due to the subjective nature of emotions, making moral decisions purely based on emotional intuition can lead to dire consequences such as conflicts in the moral decisions that various people make. Hence, reason is definitely needed in order to justify the ethical action being made.

Intuition can be related to history because of the artist’s and scientist’s influence on the work of a historian. Apart from collecting and scrutinizing the sources, the historian also has to use his imagination to interpret the data and put it into a context. There are problems in both the scientific method of observation and the artist’s method of creativity, which may arise from the historian’s intuition, i.e., intuitive selection of facts and intuitive creativity. The reason for the ‘*Reichstag Fire*’ (Germany, 1933) is still controversial as different hypotheses

⁹ Underhill, Evelyn. *Mysticism*. 1st. USA: New American Library, 1974.

¹⁰ See <<http://www.jcu.edu/philosophy/gensler/et/et-04-00.htm>>

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were provided by different historians¹¹, which can be attributed to the unique creative processes of each historian which are influenced by their intuition to a great extent. This subjectivity creates uncertainties about the knowledge we possess about past events. Because of this, reason is more important in historian's work; though historian's imagination and intuition is invariably crucial too.

Therefore, although intuition surely cannot become certified as a justified way of knowing¹², it still plays an important role in enhancing the quest for knowledge in different areas of knowledge, though to varying degrees. In my view, it should not be viewed with scorn as it "*isn't the enemy, but the ally, of reason.*"¹³ But being a personal way of knowing, it is extremely essential for us, as knowers, to evaluate it before placing complete trust in it in order to reduce the effect of the bias it has on human minds.

¹¹ See <<http://www.wsws.org/articles/2001/jul2001/reic-j05.shtml>>.

¹² Tomkinson, John L.. The Enterprise of Knowledge. 2nd. Athens: Leader Books, 2001.

¹³ Quote by John Kord Lagemann. See <<http://quote.robertgenn.com/getquotes.php?catid=168>>.

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