IB TOK ESSAY SAMPLE

TITLE

IN THE ACQUISITION OF KNOWLEDGE, CAN WE ONLY UNDERSTAND SOMETHING TO THE EXTENT THAT WE UNDERSTAND ITS CONTEXT?

TOPIC: In the acquisition of knowledge, can we only understand something to the extent that we understand its context? Discuss with reference to natural science and history.

Nobody would say that knowledge acquisition occurs in isolation; it is usually defined and conditioned by the context in which it is gained. The argument that we can at best only know something as far as we understand its context implies that meaning and understanding cannot exist outside the context, background, or environment of the knowledge. Here, the acquisition of knowledge is the process by which people acquire, interpret, and internalize information. Understanding means not only memorizing facts but also learning the principles, meanings, and consequences of knowledge. Context is the social, cultural, historical, or environmental context that surrounds knowledge, the context in which knowledge is discovered, the beliefs held, and the methodologies used.

Natural sciences tend to present knowledge as universal and objective, but technological constraints, theories, and experimental conditions shape discoveries. In history, reading without considering social, political, and cultural contexts can lead to misreading or oversimplification. Thus, context is vital to interpretation and comprehension.

Although context is vital to profound understanding in both natural science and the historical field, the degree to which it can be used to bring knowledge to the surface differs: in natural science, specific knowledge can be independent of context, but in history, context is indispensable to meaning.

Natural science:

Context in the natural sciences greatly influences the knowledge-acquisition and interpretation process. In this case, comprehension is frequently conditional on methodological, technological, and socio-cultural aspects. There is a claim that the context within which natural sciences are

created, such as the tools used, the theoretical paradigms in use at the time, and institutional priorities, has a strong influence on knowledge in the natural sciences.

The most interesting and less often mentioned example is the creation of CRISPR-Cas9 gene-editing technology. Although the process of bacterial adaptive immunity was identified several decades ago, it was only in the context of modern molecular biology, the development of sophisticated sequencing technologies, and collaborative research that researchers like Jennifer Doudna and Emmanuelle Charpentier could redesign CRISPR into a programmable and precise gene-editing tool[1].

This is a TOK view since scientific knowledge is made within definite circumstances, and experimental possibilities, previous findings, and conceptualizations interact. The socio-scientific context mediates the WOKs of reason, sense perception, and imagination, demonstrating that the understanding is contingent on both conceptual and material conditions. When these contextual factors are not recognised, the autonomy of scientific knowledge may be exaggerated, and the role of human ingenuity, technology, and institutional arrangements in shaping discovery processes may be neglected.

But there is a counterargument as well. There is also some knowledge in the natural sciences that is universal and can be comprehended without depending on the context of their discovery. For example, the laws of thermodynamics, including the second law of thermodynamics, which states that entropy in a closed system can only increase, are applicable regardless of time, culture, or space[2]. It is the same laws that were used on a steam engine in 19th-century Europe or the actions of a black hole in the 21st-century universe that give consistent and reproducible

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[1] Westermann, Lukas et al. “Nobel Prize 2020 in Chemistry honors CRISPR: a tool for rewriting the code of life.” Pflugers Archiv : European journal of physiology vol. 473,1 (2021): 1-2. doi:10.1007/s00424-020-02497-9

[2] Hochstein, Stefan, et al. “Assessment of Physical Activity of the Human Body Considering the Thermodynamic System.” Computer Methods in Biomechanics and Biomedical Engineering, vol. 18, no. sup1, 2015, pp. 923–933. Taylor & Francis Online, https://doi.org/10.1080/10255842.2015.1076804
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results. This shows that context can affect the discovery process, but, from a TOK perspective, some knowledge claims provide evidence of objective patterns that are independent of circumstances. These universal laws can be reasoned and validated by the reproducibility, empirical observation, and reasoning, which reminds us of the ability of the natural sciences to produce knowledge not entirely situational.

However, these so-called universal principles often require contextual interpretation to be useful. For example, though CRISPR is based on molecular biology concepts and DNA stability, the ethical, legal, and social implications (ELSI) of gene editing require careful contextual interpretation to use it responsibly. On the same note, thermodynamic laws are universal and should be applied to environmental conditions, material restraints, and engineering constraints to deliver valid results. This highlights one of the TOK insights: that context relates to the WOKs of reason, sense perception, and imagination to shape the interpretation, justification, and use of knowledge.

Finally, a delicate interaction between knowledge and context is demonstrated in the natural sciences. Although a part of knowledge, e.g, Basic physical laws, is universal, the richness of expertise considerably increases when one looks at it in technological, historical, and conceptual perspectives. Context influences not only knowables but also the ways of building, communicating, and using knowledge, showing that, in the natural sciences, knowledge is hardly ever completely detached from the conditions of its construction.

History:

The study of history cannot be done in isolation, as many social, political, cultural, and economic dynamics shape events. To understand a historical event, one needs in-depth knowledge of the context in which it occurred; otherwise, such knowledge will be shallow or even misleading. To

illustrate, consider World War I, which began in 1914[3]. Superficially, one can even assume that the war was a result of the assassination of Archduke Franz Ferdinand. However, a deeper understanding of it is reached by considering the broader picture, i.e., the system of alliances, the emergence of nationalism, imperial rivalry, and militarization in 20th-century Europe. Context, in this instance, is a Way of Knowing (WOK) that helps historians identify causation and trends and evaluate contrary opinions. Social, political, and economic circumstances should not be overlooked as causal oversimplifications in historical knowledge.

However, the opposite can be stated. Not every piece of historical knowledge can be defamed and lose its meaning when taken out of context. As an example of this, one can note the general rule that autocratic regimes suppress dissent to remain in power, which can be tracked over time and space, from the Roman Empire to the totalitarian governments of the 20th century. This implies that historians will be able to generalize about people and their actions, government, and social organization without necessarily having to immerse themselves in a specific context. These trends suggest that some of the knowledge claimed in history can be transferred and applied to compare them over time and space. The use of the WOKs of reason and pattern recognition in this instance enables the historians to establish knowledge that can be applied beyond the context in which it was developed.

In this case, however, TOK analysis emphasizes that there is no adequate context to understand. Anachronistic explanations or inadequate comparisons can result when globalized historical lessons are applied without considering local, time-specific, and cultural conditions. To illustrate, it would be to simplify complex social processes to compare the French Revolution with the Arab Spring without taking into account technological, communication, economic, and

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[3] Norwich University. “Six Causes of World War I.” Norwich University Online Resource Library, online.norwich.edu/online/about/resource-library/six-causes-world-war-i. Accessed 2 Dec. 2025.

global political factors[4]. Context provides the interpretative scheme that enables historians to perceive meaning, relevance, and causation, and historical knowledge is hardly objective or context-free.

Also, it is possible to note the interdependence of the evidence and the historical context, emphasizing the importance of the language and the perspective as the Ways of Knowing. Historical records are made by people with certain worldviews, prejudices, and purposes. These sources can never be understood out of the social, political, or linguistic context in which they have been created. Thus, without having the experience of colonial American politics, one would not read Common Sense by Thomas Paine without seeing its revolutionary sense in it. Contexts bring raw historical data into knowledge by inserting it within a context of human experiences and interpretations.

In conclusion, history shows that the situation is closely related to the process of knowledge acquisition. Even though, on a larger scale, historians can draw conclusions and observe trends, the depth and accuracy of their remarks can be significantly enhanced by delving into the situation, forces, and opinions that have shaped the events. Context is not an incidental thing; it is a crucial component of historical knowledge and affects interpretation, applicability, and meaning. Out of context, the knowledge claims in history are vulnerable to being shallow, distorted, or even misleading, so it is not possible to ignore the point that knowledge cannot be understood outside the context of the circumstances in which it is generated.

Conclusion:

In comparing the acquisition of knowledge in the natural sciences and in history, context is a highly significant factor in determining how knowledge is acquired. However, its influence is

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[4] Rasheed, Adil, PhD. “Arab Spring and the French Revolution: The Longue Durée of Transformation.” LinkedIn, https://www.linkedin.com/pulse/arab-spring-french-revolution-longue-dur%C3%A9e-adil-rasheed-phd
. Accessed 2 Dec. 2025.

greater in some fields than in others. Human sciences provide context for the social, cultural, and psychological factors underlying behavior, as in Milgram's obedience experiments. Nevertheless, certain cognitive and economic generalizations indicate that it is not always the case that types of knowledge are contingent on circumstantial variables.

History requires context to interpret events, motives, and origins, as in the case of the French Revolution and World War I; without contextualizing knowledge in terms of time and place, as well as culture and social interactions, it is shallow and skewed. A more fine-grained approach is the natural sciences, where scientific laws are usually claimed to be universal.

Nevertheless, methods, models, and experimental conditions that lead to the creation of knowledge are never universal. In that sense, the context as such, the context of knowledge, is the manifestation of limitations and assumptions of knowledge.

Lastly, knowing is not merely an act that comes after knowing facts, but a process of making sense, a judgment, and a connection of knowledge to the context in which it is created. In the context of TOK, interaction between the Ways of Knowing and context brings about, justifies, and puts knowledge to application. Therefore, although specific knowledge can reach the level of generic applicability, insight, and the quality and trustworthiness of knowledge are continually enhanced through the realization of the situation.

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