

Application of The Concept of Mathematical Limits In The Quranic Verse of Yusuf Verse 76: Text And Context Analysis

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Abstract : *This article explores the relationship between the concept of limits in mathematics and the verse (QS. Yusuf: 76), which emphasizes that above every knowledgeable person there is one who is more All-Knowing. The limit in calculus describes an endless process of approximation, where a function approaches a certain value without ever actually reaching it. This concept has a philosophical correlation with the teachings of the Qur'an that emphasize intellectual humility and the awareness that human knowledge is always limited compared to God's knowledge. Through a textual and contextual analysis approach, this article examines how the verse is understood by classical and contemporary commentators and interprets it within the framework of modern mathematical epistemology. The analysis finds that both the concept of the limit and the content of the verse teach that the pursuit of knowledge is a continuously evolving process without an endpoint. Thus, the collaboration between science and sacred texts can open a new paradigm in understanding the relationship between mathematical rationality and divine spirituality.*

Keywords : *Limit, epistemology, science, al-qur'an, interpretation*

Abstrak : Artikel ini mengeksplorasi keterkaitan antara konsep limit dalam matematika dengan (QS. Yusuf: 76), yang menegaskan bahwa di atas setiap orang berilmu masih ada yang lebih Maha Mengetahui. Limit dalam kalkulus menggambarkan suatu proses pendekatan tanpa akhir, di mana suatu fungsi menuju nilai tertentu tanpa pernah benar-benar mencapainya. Konsep ini memiliki korelasi filosofis dengan ajaran Al-Qur'an yang menekankan kerendahan hati intelektual dan kesadaran bahwa ilmu manusia selalu terbatas dibandingkan ilmu Allah. Melalui pendekatan analisis teks dan konteks, artikel ini menelaah bagaimana ayat tersebut dipahami oleh para mufasir klasik maupun kontemporer, serta menafsirkannya dalam kerangka epistemologi matematika modern. Hasil analisis menemukan bahwa baik konsep limit maupun kandungan ayat tersebut sama-sama mengajarkan bahwa pencarian ilmu adalah proses yang terus berkembang tanpa titik akhir. Dengan demikian, kolaborasi antara sains dan teks suci dapat membuka paradigma baru dalam memahami hubungan antara rasionalitas matematis dan spiritualitas ilahiah.

Kata Kunci : *Limit, epistemologi, ilmu, al-qur'an, tafsir*

INTRODUCTION

Knowledge, from an Islamic perspective, has a very important position in human life (Gigannia et al., 2025). As part of a guide to life, the Quran teaches that seeking knowledge is an obligation that must be carried out throughout life (Fahrurrosi et al., 2025). Allah Subhanahu wa Ta'ala commands humanity to continue to seek knowledge, both in the religious and worldly fields (Rasyada et al., 2025). In Islam, knowledge is considered a path to knowing God and understanding the universe, as well as to improving the quality of human life. This concept of knowledge is crucial because it can guide humanity to the truth and wisdom necessary for daily life. The Quran not only contains revelations on spiritual and moral aspects but also encourages people to explore the world through knowledge and science (Bhat & Bisati, 2025). In this regard, Allah emphasizes the importance of knowledge as a tool to improve and enrich human life. Therefore, knowledge is not only seen as knowledge, but also as a means to improve morals and civilization. In Islam, the pursuit of knowledge is highly valued, and every individual is commanded to continuously increase their knowledge to benefit themselves and others. Thus, knowledge is an integral component of the profound and complex life of Muslims.

One verse that really emphasizes the importance of knowledge and levels of knowledge is **فَوْقَ كُلِّ ذِي عِلْمٍ عِلْمٌ** (Surah Yusuf, Verse 76), which means "And above every person who knows, there is another who is more knowledgeable." This verse describes the concept of an unlimited hierarchy of knowledge. (Rohmah et al., 2023) In this verse, Allah emphasizes that even if someone possesses vast knowledge, there are still levels of knowledge that are higher than their own. This concept reminds us that knowledge is not static, but rather continues to evolve with the passage of time and human achievement (Haase & Pokutta, 2025). Even the most knowledgeable person still has limits to their knowledge, and there are always others who are more knowledgeable than they are. Human knowledge is limited, while God's knowledge is vast and all-knowing (ELSHEIKH et al., 2024). Human knowledge is a small part of God's knowledge that is beyond the reach of anyone (Benton, 2024). This concept demands that we remain humble and never satisfied with the knowledge we already possess, as there are always deeper and higher aspects to learn. In everyday life, countless examples demonstrate that even those with a high level of education must continue to learn and be open to new knowledge from various sources, both scientific and spiritual. Therefore, knowledge in Islam is a never-ending journey that continually leads to deeper understanding.

In this context, the verse **فَوْقَ كُلِّ ذِي عِلْمٍ عِلْمٌ** also teaches that the knowledge possessed by humans is a never-ending process (Mermer & Ameer, 2004). This is an important message: the pursuit of knowledge should be an ongoing lifelong goal. There is no end to the pursuit of knowledge, as each discovery opens the door to deeper and broader knowledge (Carnehl & Schneider, 2025). This verse illustrates that knowledge is an infinite journey, in which humans continually approach higher levels of knowledge, but never truly attain them. This relates to the fundamental principle of limits in mathematics, which describes the process of approaching a certain point without ever actually reaching it. In this sense, human knowledge can be thought of as a constantly evolving limit, approaching infinitely higher levels. The search for knowledge, whether in religion, science, or any other field, is never-ending, and each discovery only adds to doubts about the limitations of our knowledge (Goodfield, 2025). For example, in physics, although we have uncovered many of the mysteries of the universe, new questions are constantly emerging from previous discoveries. This teaches us that science is constantly evolving and full of mysteries. Therefore, everyone should realize that they will never have perfect knowledge, and that there is always room for learning and improvement.

Just as the concept of limit in mathematics describes how a value approaches a certain point without ever actually reaching it, this verse also encourages us to develop an awareness that knowledge is something that continues to develop, without ever reaching an end (Russell, 2025). The concept of limits describes a continuous journey toward a certain point, even though we know that point will never truly be reached. This is relevant to the pursuit of knowledge in human life, where humans continually strive to increase their knowledge, but there are always higher and broader aspects to what has already been learned (Schut et al., 2025). In the Quran, Allah Subhanahu wa Ta'ala states that knowledge is limitless, and no one can possess complete knowledge of anything except Allah. This verse reminds us that the pursuit of knowledge is an endless journey that will continue throughout our lives (Peng et al., 2025). Therefore, we must always be open to learning, updating our knowledge, and never be satisfied with what we have achieved. Just as the concept of limits approaches a certain point, so too does human knowledge continue to develop, approaching an infinite truth. This is a never-ending journey, and as Muslims, we must continually strive to increase our knowledge and devotion to Allah Subhanahu wa Ta'ala.

METHOD

The approach used in this article is a textual and contextual analysis approach to the verse of the Qur'an, where textual analysis is focused on exploring the literal meaning, linguistic structure, and style of language used in the verse to understand the explicit message it contains, while contextual analysis includes tracing the historical background of the revelation of the verse (*asbāb al-nuzūl*), the social conditions of society during the time of the Prophet Yusuf, and how the verse is understood in the development of Islamic scientific tradition (Setyarama, 2025). After gaining a comprehensive understanding of both approaches, the concept of limits in mathematics is then used as an analogical framework to connect the meaning of the verse about the hierarchy of knowledge and the limitations of human knowledge with the mathematical principle that describes the process of continuously approaching a value without ever actually reaching it. Thus, the application of the concept of limits is not intended to change the theological meaning of the verse, but rather as a reflective tool to show that in both the perspective of revelation and science, the search for knowledge is a never-ending, progressive process.

RESULTS AND DISCUSSION

3.1 Text Analysis

Verse “فَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ” (Qur'an Ministry of Religion, tt) 'directly affirms the existence of a hierarchy in science (Yusuf et al., 2019). Phrase (*dzu 'ilmin*) refers to anyone who knows, whether little or a lot, while the word (*'alim*) shows a figure who knows more, namely someone who is at a higher level of knowledge ("Translation of Tafsir Ibn Kathir," tt). Linguistically, the structure of this verse forms a comparative pattern indicating the existence of hierarchical layers of knowledge. The Quran not only acknowledges the diversity of levels of intelligence and knowledge among humans, but also implies that there is always a being at a higher level, ultimately reaching the pinnacle of God, the All-Knowing (Al-'Alim). Thus, this verse is not merely a theological statement, but also an epistemological reflection on the relativity of human knowledge.

Upon closer examination, this verse contains both a moral and methodological message for those seeking knowledge. It teaches that the pursuit of knowledge should not be accompanied by arrogance, because every achievement of knowledge, no matter how high by human standards, remains subject to the mastery of broader knowledge (Nuri et al., 2025). In this context, the verse breaks down intellectual absolutism and instills an ethos of intellectual humility (Berryman et al., 2025). One should never feel like one has reached the pinnacle of knowledge, as there is always

room for new developments waiting to be explored. Even in modern science, every major theory is considered "provisional" and open to revision as new data or more appropriate approaches emerge.

Furthermore, this verse also reflects the concept that knowledge is dynamic and progressive (Bai et al., 2025). It doesn't stop at one generation, one discipline, or one paradigm. Just as limits in mathematics represent a continuous approach to a value without ever truly reaching it, so too does human knowledge always move closer to truth without ever claiming absolute ownership of it. This perspective opens up space for integration between revelation and science, as both acknowledge that the intellectual journey is a limitless process. Within this framework, the verse serves not only as a spiritual reminder but also as an epistemological inspiration relevant to the development of science across time.

3.2 Context Analysis

The concept of hierarchy of knowledge contained in the verse "فَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ" received in-depth explanations from commentators, particularly Ibn Kathir. In his commentary, Ibn Kathir emphasized that the context in which this verse was revealed relates to the story of the Prophet Yusuf (peace be upon him), who at that time played a crucial role as the administrative ruler of Egypt, with high authority in decision-making and managing state affairs ("Translation of Tafsir Ibn Kathir," tt). Even though the Prophet Yusuf was known as an intelligent, wise figure and had special abilities in interpreting dreams and devising economic strategies, the Qur'an still emphasizes that this position was not the absolute pinnacle of knowledge (Arief et al., 2025). Allah reminds us that there is always a higher level of knowledge that is beyond the reach of humans, no matter how privileged one's position. Therefore, this verse not only conveys a message of monotheism but also represents the principle of balance between respect for human knowledge and the affirmation that ultimate knowledge remains in the hands of Allah.

This view is reinforced by the statement of Al-Hasan Al-Basri, who said that there is no scholar on the face of the earth except that there is someone more scholarly above him (Whiten & Rutz, 2025). This statement is not only normative but also reflects the social reality that human knowledge always relies on continuity and synergy between generations. No great figure in the history of Islamic civilization—whether a scholar, philosopher, scientist, or commentator—achieved his knowledge completely without relying on previous teachers. Thus, this verse not only conveys a message of humility but also emphasizes the existence of a system of chains of knowledge transmission (*sanad al-'ilm*) that serves as the foundation of Islamic epistemology. Even when someone has become a leading reference in a field, he cannot claim absolute independence, because there is still knowledge he does not know, both in the empirical and metaphysical realms.

Ibn Abbas, as narrated by Abdur Razzaq and Sufyan As-Sauri, emphasized that even if someone has very broad knowledge, there is still someone who knows more than him. (Murni et al., 2023) This shows that the concept of "scholar" in this verse is not only oriented towards humans, but also includes other entities such as angels or even previous messengers, each of whom was bestowed with different types of knowledge according to the divine mission they carried. In this regard, Qatadah explains that all branches of knowledge are ultimately 'mauhub' (bestowed), not 'muktasab' (purely the result of effort). This means that although humans are commanded to seek knowledge, the success of acquiring that knowledge remains within the realm of Divine will. Therefore, the claim to absolute ownership of knowledge is an epistemic illusion, because knowledge is essentially a trust that can be given, added to, or revoked at any time by the Giver of Knowledge.

As a reinforcement of this concept, the narration of Abdullah bin Mas'ud mentions another wording of this verse, namely "فَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ" which means "Above every learned person, there is the Most Learned." This wording difference, although small in structure, carries extraordinary

depth of meaning. This wording emphasizes that the highest pinnacle of all levels of knowledge is not humans, angels, or prophets, but rather God as the source of all knowledge. This is in line with other verses such as "سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا" ("Glory be to You, we do not know what You teach us") in Surah Al-Baqarah verse 32. Thus, the verse "wa fawqa kulli dzī 'ilmin 'alīm" is not just a moral expression to be humble, but is a philosophical framework that organizes the structure of knowledge in Islam: that humans have the freedom to seek knowledge, but remain within the limits of being creatures, while Allah is the only entity that possesses absolute and limitless knowledge.

3.3 The Concept of Limits in Mathematics

Limit Axioms (Basic Axioms in Limit Theory):

Suppose $f(x)$ is a function defined on an interval that includes all values of a , except perhaps at the point a itself. Then, the limit of $f(x)$ as x approaches a is a value L that satisfies:

$$\lim_{(x \rightarrow a)} f(x) = L$$

If for every value $\varepsilon > 0$, there is a value $\delta > 0$ such that if $|x - a| < \delta$ then $|f(x) - L| < \varepsilon$, then it is said that $f(x)$ approaches L as x approaches a . (Sungkono & Wulandari, 2022)

The axiom of limits essentially provides a philosophical and mathematical basis for how we understand gradual change (Indriani et al., tt). This concept explains that a value does not have to be directly reached to be analyzed, but rather can be consistently approached. For example, if we have a function $f(x)$, we want to know how it behaves as x gets closer to a certain point, namely, a . The limit states that if we bring x closer to a —though not necessarily exactly to a —then the value of the function $f(x)$ will also get closer to a certain value, namely L . Thus, the limit does not require equality of value, but rather the direction of approach. This is why the limit is a fundamental concept in calculus: because it is able to bridge situations where the value of a function cannot be calculated directly at a certain point, but can be understood through approximations. This concept then becomes the foundation of various branches of applied science, such as physics, economics, and engineering, especially in analyzing growth, speed, acceleration, or other phenomena of change.

Formally, the definition of a limit is constructed using the ε (epsilon) and δ (delta) approximations, which serve to provide a more precise limit on proximity. Epsilon represents how close the result of the function $f(x)$ must be to the target value L , while delta indicates how close x must be to point a for that condition to be met. In other words, if for any desired precision of $f(x)$ —even a very small precision (denoted by ε)—there is always a certain distance between x and a (denoted by δ) that ensures $f(x)$ remains within that precision, then we can say that the limit of $f(x)$ as x approaches a is L . This ε - δ definition may seem complicated at first, but this is precisely where its mathematical power lies: it can describe the concept of "approaching without touching" rigorously and objectively. This approach not only ensures logical consistency in the calculations but also assures that the limit is not just an intuitive guess, but a mathematical truth that can be systematically tested and proven.

3.4 Integration of Limits With Verses

The concept of limits in mathematics not only plays a crucial role in numerical analysis and function calculations but also holds profound philosophical value when linked to the pursuit of knowledge. Furthermore, the Qur'an, through the verse "فَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ" provides the basic principle that human knowledge is always gradual and never stops at a final point. When these two ideas are brought together, it appears that they both contain a similar epistemological message: that knowledge is not something static and closed, but rather dynamic, progressive, and

continuously moving towards limitless perfection. By viewing limits as a metaphor for the human intellectual journey, we can understand that every effort to seek truth is a never-ending process of approximation. From this emerge three main principles that can serve as a foundation for understanding the relationship between the concept of limits and the Islamic view of knowledge: knowledge as a continuously evolving process, the importance of humility in learning, and the awareness that the pursuit of knowledge is a lifelong journey.

3.4.1 Science as a Continuously Developing Process

The concept of limits in calculus explains how a value can continually approach a certain point without ever reaching it completely. For example, as $f(x)$ approaches L as x approaches a , the value of $f(x)$ can get closer to L to a very small distance, but still not actually touch it directly. This phenomenon illustrates a never-ending process of approximation. This analogy can be applied to the concept of knowledge in Islam through the verse "فَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ" (*wa fawqa kulli dhī 'ilmin 'alīm*), which means "And above every person of knowledge, there is one who knows more." This means that in the journey of knowledge, humans are only in a position to continually approach the truth without ever truly reaching it absolutely. Human knowledge is progressive, continuously developing, and always open to revision and improvement. Just as limits do not stop at a single value, so too science is never finished at one point. By understanding this, we realize that every scientific discovery or theory is not the end, but only part of a long process towards a more perfect understanding.

3.4.2 Humility in Seeking Knowledge

The mathematical definition of limit uses the ϵ (epsilon) and δ (delta) approaches to ensure that the value of $f(x)$ remains within a certain limit of proximity to L . Philosophically, this teaches that to approach the truth, consistent effort and awareness of one's own limits are required. The verse "*wa fawqa kulli dhī 'ilmin 'alīm*" provides the same moral lesson: that humans should not feel they have mastered all knowledge just because they have a small portion of knowledge. Just as the value of $f(x)$ never reaches L but only approaches it, humans can only approach the truth without ever fully mastering it. Therefore, humility (*tawadhu'*) is an important part of Islamic scientific ethics. A true scholar does not think he knows best, but one who realizes that there are still higher levels of knowledge, whether in other humans, the next generation, or in Allah as *Al-'Alīm* (the All-Knowing One). This awareness of limitations actually becomes the fuel for the spirit of continuous learning.

3.4.3 Lifelong Learning

Because limits approach infinity, they philosophically represent the never-ending journey of knowledge. In an Islamic context, this aligns with the concept of *thalabul 'ilmi faridhah* (seeking knowledge is an obligation), which is not limited by age, social status, or specific achievements. The verse "*wa fawqa kulli dhī 'ilmin 'alīm*" teaches that there is no final point in learning; even when one has reached the highest level in a field, there are always new horizons to explore. Just as limits continually approach point L with ever-refining precision, humans must continually refine their understanding over time. This is the true meaning of lifelong learning. Worldly and spiritual knowledge both travel along an unbroken path of limits the more one learns, the more one realizes that much remains unknown. Thus, both mathematically and Qur'anically, knowledge is not a final destination, but rather an eternal journey toward ultimate truth.

CONCLUSION

Verse "فَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ" (Surat Yusuf, Verse 76) contains a profound message that knowledge is hierarchical and never reaches an end. Every individual who feels they have mastered a field remains in a position where there is always someone more knowledgeable, and at the

pinnacle is Allah, the All-Knowing. When this message is linked to the concept of limits in mathematics, a powerful philosophical analogy emerges: just as limits describe values that continually approach a point without ever truly reaching it, so too is the process of seeking knowledge in human life. We can approach the truth, understand various phenomena, and reach certain peaks of knowledge, but still never achieve absolute perfection. With this understanding, humans are invited to always be humble, not arrogant about their knowledge, and continue to be open to new learning. In both the worldly and spiritual realms, this principle emphasizes that learning is a journey without a finish line, and the human task is not to become the most knowledgeable but to continue to grow, seek, and approach the truth as best as possible.

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