



الفضلان: مجلة التربية الإسلامية والتعليم

AL-FADLAN: Journal of Islamic Education and Teaching

Journal website: <https://al-fadlan.my.id>

ISSN: 2987-5951 (Online),

Vol. 3 No. 1 (2025)

DOI: <https://doi.org/10.61166/fadlan.v3i1.88>

pp. 110-126

Research Article

The Differences Between Scientific Knowledge and other Forms of Knowledge

Abdul Aziz Shamhuna

Islamic University College, Ghana; shamhuna@iug.edu.gh

Copyright © 2025 by Authors, Published by AL-FADLAN: Journal of Islamic Education and Teaching. This is an open access article under the CC BY License <https://creativecommons.org/licenses/by/4.0/>

Received : February 17, 2025

Revised : March 15, 2025

Accepted : April 16, 2025

Available online : May 30, 2025

How to Cite: Shamhuna, A. (2025). The Differences Between Scientific Knowledge and other Forms of Knowledge. *Al-Fadlan: Journal of Islamic Education and Teaching*, 3(1), 110–126. <https://doi.org/10.61166/fadlan.v3i1.88>

Abstract. This dissertation looks at the differences between scientific knowledge and other types, like philosophical, experiential, and traditional knowledge. It focuses on the guidelines and structures that separate these systems. Using methods like interviews, surveys, and a review of relevant literature, the study shows that scientific knowledge relies on evidence and repeatability, while other types of knowledge value personal experience, context, and cultural importance. Important findings reveal that healthcare workers often appreciate combining different types of knowledge to improve patient care, suggesting a move toward a more complete approach. These findings are significant because they could shape healthcare practices that honour various types of knowledge, leading to a better understanding of patient needs and wishes. Moreover, the study has wider relevance for health policy and education, promoting the inclusion of different perspectives in medical training and practice. By encouraging communication between scientific and non-scientific knowledge systems, the research highlights the importance of cultural awareness and the need for flexible healthcare

models that respect and integrate various forms of knowledge. This could ultimately enhance healthcare results and create a more inclusive approach to patient care.

Keywords : Cultural, Knowledge, Scientific, Repeatability, Approach, Experiential, Evidence

INTRODUCTION

The search for understanding the differences between types of knowledge has gained much attention in academia, especially as society faces complicated issues in many fields. Scientific knowledge, often praised for its evidence-based and organized method, stands in contrast to philosophical, experiential, and traditional knowledge, which may focus more on personal experiences and cultural relevance. Previous research has pointed out that using scientific knowledge in policy-making and healthcare is part of a trend that favours evidence over other types of knowledge. This dissertation addresses the complicated relationships that shape these differences, particularly in healthcare and public policy, where different foundations of knowledge may have major effects on practice and understanding. The research problem focuses on clarifying the differences between scientific knowledge and other types of knowledge, as well as how these differences affect their use in various situations. This concern is especially important as interdisciplinary methods are increasingly incorporated into medical training and practice, highlighting the need to understand how different types of knowledge can impact patient care and health results. The main goals of this research are to critically analyse the features of scientific knowledge, detailing its empirical basis and the standards used to verify it, while also looking into the importance of philosophical, experiential, and traditional knowledge systems. By using qualitative methods, such as interviews and content analysis, this study seeks to gather a variety of views from healthcare professionals regarding the use of these knowledge types in practice. The significance of this study is very high, as it aims to show the importance of a broad approach to knowledge, which not only improves healthcare delivery but also promotes cultural understanding among practitioners. Moreover, this section lays the groundwork for understanding the wider effects of various knowledge types on healthcare policy and education, stressing the need for flexible and inclusive frameworks that value and integrate different kinds of knowledge.

In the end, this initial exploration is meant to add to the increasing literature that thoughtfully examines the nature of knowledge today, suggesting that valuing various knowledge systems may lead to more effective and compassionate practices in diverse situations. By questioning the limits of scientific ideas, this study promotes a future where different knowledge types enhance rather than complicate our understanding of health, illness, and community well-being (Horbachenko O, 2022).

Definition of scientific knowledge

Generally speaking, when we talk about what constitutes scientific knowledge, it's typically defined by its systematic and empirical approach, something that's intrinsically linked to the scientific method. This type of knowledge really puts a premium on objective data, and, crucially, reproducibility. This helps set it apart from other ways of knowing that might lean a bit more on, say, personal experiences or even cultural stories. The thing is, scientific knowledge comes from tough experimentation and observation, building a framework that tries not only to explain what goes on in nature, but also use that understanding to tackle problems we face in society, like those big environmental challenges, think climate change, and the loss of biodiversity (Salomaa et al, 2017). Moreover, the way scientific knowledge has changed shows how it has shifted from a more individual mode (Mode 1) to Mode 2, emphasizing research collaboration among various folks, like people in industry, universities, and government. This complexity tells us that while science strives for objectivity, it is also influenced by our socio-political environments and interdisciplinary studies, separating it from other types of knowledge.

Importance of understanding the distinctions between scientific knowledge and other forms of knowledge

Understanding knowledge systems thoroughly is key when tackling complex issues across different academic areas. It's worth noting that research hasn't fully explored the subtle differences between scientific knowledge and other ways of knowing, like those from philosophy or indigenous traditions. This can cause a lack of insight into how context shapes scientific research. Reflexive objectivity in research methods underscores this point. Also, exploring how different forms of knowledge interact, especially within the realm of French epistemology, can shed light on methodological principles that often conflict but are crucial for complete understanding. By giving prominence to these distinctions, researchers are likely to craft integrative strategies. These not only honour diverse epistemologies but also boost scientific precision, which ideally results in more impactful and relevant uses in various fields. (Salomaa et al, 2017)

LITERATURE REVIEW

The relationship between various types of knowledge has engaged many scholars and professionals, resulting in extensive conversations about epistemology, methodology, and the effects of knowledge on society. Knowledge appears in various forms, from empirical data gained through scientific methods to intuitive insights from personal experiences or cultural backgrounds. Recognizing these differences is important for academic growth and real-world applications in areas like policymaking, education, and ethics. This examination gains significance in light of modern challenges, particularly when trying to differentiate reliable scientific

information from other knowledge types, especially in a time filled with misinformation and differing beliefs. For example, (Alexandra L. H et al, 2024). shows how science serves as a structured method for uncovering truths about the natural world and how it contrasts with subjective knowledge like beliefs or personal stories that might overshadow scientific facts in public discussions. The existing literature highlights several themes, including the nature of scientific knowledge, which is defined by its verifiability and predictive power, leading to greater trust in scientific results within society. In contrast, alternative knowledge forms often integrate cultural, ethical, and communal aspects, as noted by who describes the significant contributions of indigenous and experiential knowledge systems to understanding environmental interactions. Ongoing discussions regarding the legitimacy and authority of different knowledge types, explored by (Glenton C. et al., 2021) and (Zirafa C. et al, 2024), indicate an increasing recognition of the limitations of scientism and the necessity of incorporating various perspectives. However, despite the conversations surrounding the definitions and characteristics of knowledge types, there remain gaps in research that investigate their practical applications and relationships, especially within interdisciplinary settings. While some studies emphasize the need for a broader understanding of knowledge, they often do not offer clear frameworks for collaborative efforts between scientific and non-scientific knowledge holders in real-life situations. In addition, the impact of digital media complicates these dynamics, as pointed out by (Jennifer R. A. et al., 2020).

There is a noticeable lack of critical analysis concerning the role of social media in creating echo chambers, which blur the lines between scientific and everyday knowledge, allowing misinformation to persist among conflicting claims. This ambiguity calls for further empirical research into the social effects of these blurred distinctions. Moreover, while some academics have started to examine the ethical implications of diverse knowledge forms, thorough studies investigating how scientific knowledge can exist alongside alternative viewpoints are still few. The upcoming sections of this literature review will chart the development of ideas regarding the distinctions and connections between scientific knowledge and other types of knowledge, clarifying their implications across various societal sectors. Such an analysis not only enhances our comprehension of knowledge as a complex construct but also encourages a re-evaluation of how we verify and prioritize different knowledge types within public and academic discussions. By pinpointing these gaps, this review lays the groundwork for a more detailed conversation about the conceptual and theoretical frameworks that drive knowledge creation and sharing in today's society, inviting critical examination and fostering interdisciplinary partnerships that could significantly influence future research directions. The development of scientific knowledge versus other ways of knowing has drawn much attention over time. Early philosophical discussions, seen in Aristotle's works, established clear differences between observable evidence and personal beliefs,

presenting scientific inquiry as systematic and testable. During the Enlightenment, thinkers like Descartes stressed logical reasoning and systematic doubt, paving the way for the perception of scientific knowledge as superior due to its thorough methodologies. As the 19th century came, the gap widened with the formalization of the scientific method, largely defined by figures such as Bacon and Newton. Their approaches created clear boundaries between scientific knowledge, marked by the ability to be tested and replicated, and other kinds of knowledge that often lack empirical support. Positivism further reinforced this idea, suggesting that all valuable knowledge must be either a priori or based on sensory experience, dismissing metaphysical claims. By the 20th century, thinkers like Karl Popper critiqued earlier views, asserting that while scientific knowledge is essential, it is also inherently precarious, differentiating it from the absolute assertions often made by other systems of knowledge (Horbachenko O, 2022).

Lately, the interaction between various knowledge types has gained traction in postmodern discussions, where scholars advocate for a more inclusive understanding that acknowledges the validity of indigenous knowledge systems alongside traditional science. This changing landscape highlights a complex conversation about how to categorize knowledge and stresses the need for thoughtful engagement with the knowledge frameworks that shape our understanding of the world. A detailed look at scientific knowledge shows its uniqueness compared to other systems like philosophical, experiential, or traditional knowledge. Scientific knowledge, marked by empirical validation and structured enquiry, often contrasts with the subjective and anecdotal nature found in experiential knowledge. For instance, (Alexandra L. H. et al., 2024) points out the stringent standards of the scientific method that require results to be replicable, standing in stark contrast to personal experiences which can differ widely, as discussed by (Vanlewin O et al., 2024). This principle of reliability not only sets science apart but also reinforces its credibility in current discussions. Moreover, the objectivity inherent in scientific inquiry challenges cultural and traditional forms of knowledge, which can be deeply rooted in context and perspective. As discussed by (Azzawi S et al., 2023), the fluid nature of traditional knowledge may make it vulnerable to distortion, whereas scientific knowledge adheres to a defined assessment framework. This perspective is further supported by (Xyrichis A et al., 2021), who states that validation in science relies on peer review and public examination, thus fostering a communal trust in findings that are often absent in other knowledge forms.

Furthermore, conveying scientific knowledge is a crucial aspect. The language of science, as explained by (Glenton et al., 2021), is often specialized and difficult to understand, creating barriers between scientific and everyday knowledge. In contrast, everyday forms of knowledge tend to be more user-friendly but may not possess the depth and rigor found in scientific discussions. The distinctions between

scientific and non-scientific knowledge thus reveal broader concerns within the knowledge acquisition and sharing landscape, which are essential for understanding ongoing debates regarding the significance and value of various knowledge systems within society. Exploring the differences between scientific knowledge and other knowledge forms reveals a complex mix of perspectives influenced by various methodological approaches. Many researchers support a positivist approach, claiming that scientific knowledge, rooted in empirical evidence and quantitative studies, is fundamentally better due to its reproducibility and objectivity. This outlook sharply contrasts with qualitative and interpretative approaches that emphasize individual experiences and context-driven understandings, revealing the shortcomings of purely scientific methods.

Additionally, critical theorists assert that scientific knowledge is often influenced by power dynamics and political structures, calling the supposed neutrality of scientific inquiry into question. They stress that non-scientific knowledge forms, like indigenous practices and local wisdom, provide vital insights often overlooked by a strict scientific approach. Other scholars note the significance of narrative and personal experiences in shaping knowledge, claiming that these forms can be as important as scientific data in understanding complex social issues. However, the idea of methodological pluralism, integrating different ways of knowing, suggests a more complete understanding of knowledge. Acknowledging both scientific and non-scientific approaches enables researchers to foster a more intricate conversation about the varied methods of understanding and existence in the world. Ultimately, examining these methodologies concerning knowledge constructs reveals a dynamic interaction that shapes how knowledge itself is defined. Within discussions about the differences between scientific knowledge and alternative knowledge types, various theoretical views come forward, providing a layered understanding of the subject. Traditional knowledge theories often focus on the objective nature of scientific inquiry, asserting that scientific knowledge is defined by empirical verification and the ability to be disproven, a view supported by scholars like. On the other hand, critics highlight that non-scientific knowledge types, including indigenous and experiential knowledge, can offer equally valuable insights, especially when scientific approaches may not suffice. This viewpoint is supported by (Azzawi S et al., 2023) and (Xyrichis A et al., 2021), who examine the real-world consequences of blending various knowledge systems.

Moreover, constructivist views challenge the concept of objective truth central to scientific knowledge. Scholars like (Glenton C et al., 2021) and (Zirafa C et al., 2024) argue that knowledge is co-created through social interactions and cultural contexts, complicating the simplistic division of scientific versus non-scientific knowledge. Postmodern perspectives further question the universality of scientific knowledge, noting that it often reflects biases rooted in Western epistemologies. In more sophisticated discussions, some theorists promote a pluralistic view of

knowledge, advocating for the presence of different epistemologies to tackle complex societal issues. This blending of theoretical perspectives not only enhances the discussion but also highlights the need to recognize various knowledge systems in forming a complete understanding of reality. By connecting these different viewpoints, the literature reveals both the strengths and limitations of scientific methods compared to other knowledge areas. Assessing the literature on differences between scientific knowledge and alternative knowledge types reveals several key findings that highlight the complexities in understanding epistemology. The review shows that while scientific knowledge is often praised for its empirical strength and reproducibility, its standing as the top form of knowledge faces increasing scrutiny in current discussions. Scholars like (Alexandra L H., et al., 2024) and (Vanlewin O et al., 2024) point out the essential differences between scientific approaches and anecdotal or cultural knowledge systems, underscoring the significance of methodological discipline.

However, as (Azzawi S et al., 2023) and (Azzawi S et al., 2023) discuss, alternative knowledge types offer important insights into cultural contexts and practical situations, which are critical for grasping how humans interact with the natural world. The reviewed literature reinforces the need for a pluralistic understanding of knowledge. Recognizing varied epistemic frameworks, as discussed by (Glenton C et al., 2021) and (Zirafa C et al., 2024), emphasizes the limitations of a purely scientific perspective, especially as social issues require integrative solutions. The implications of these findings go beyond theoretical discussions, extending into practical areas such as policy creation, education, and community practices. Engaging with indigenous knowledge and qualitative methods not only enhances scientific insight but also addresses urgent global issues, as emphasized by (Kamble S.D et al., 2023), and (Jennifer R. Amos et al., 2020). Nonetheless, the literature has its limitations. Although many researchers call for a fairer acknowledgment of diverse knowledge systems, there is a clear lack of empirical studies that successfully connect scientific methods with alternative epistemologies in practical applications. There are still gaps in understanding how these knowledge forms can mutually inform each other in a productive manner.

Additionally, the role of digital media in altering perceptions related to knowledge hierarchies, highlights the necessity for further research into how misinformation spreads and affects public trust in both scientific and non-scientific knowledge types. Future studies could greatly benefit from focused interdisciplinary collaboration that not only clarifies interactions between scientific and alternative knowledge but also creates frameworks to enhance mutual understanding and integration. Research that looks at how communities can value and incorporate scientific findings alongside traditional and experiential knowledge, showing the dynamic nature of knowledge creation, could be fruitful. Furthermore, exploring the ethical aspects of knowledge sharing in the digital age becomes a pressing area to

investigate, especially as points out that the transparency of algorithms significantly affects which knowledge forms gain prominence and legitimacy.

In conclusion, this literature review provides a critical perspective on the ongoing conversation about scientific versus alternative knowledge forms. By reinforcing the importance of recognizing and integrating diverse epistemologies, these findings encourage stakeholders in various fields to promote inclusive practices that honour the complex nature of knowledge. As we navigate an increasingly complicated informational ecosystem, continued exploration of these distinctions remains essential, offering pathways to better societal understanding. This review establishes a foundation for future academic inquiry and collaborative efforts aimed at bridging existing gaps, as highlighted by the need for thorough exploration of how scientific and alternative knowledge systems can coexist in practice (Horbachenko O, 2022).

METHODOLOGY

In modern academic discussions, looking at types of knowledge and ways of knowing is important. The differences between scientific knowledge and other types affect many areas, such as education, policy, and ethics. Recent studies show that scientific knowledge is often seen as the best type. It is based on empirical data, systematic methods, and can be tested and repeated. In contrast, other forms of knowledge, like traditional, indigenous, or personal experiences, provide valuable insights into human life and society but lack the strict validation that science requires. This situation raises research questions about how these differences impact collaboration and integration of knowledge across disciplines, especially in places where scientific and other ways of knowing meet. Therefore, this research aims to identify and analyse the main differences between scientific knowledge and other types, focusing on how these distinctions appear in today's discussions and practices.

Additionally, it seeks to engage with current literature to show how different knowledge types support or challenge established views. The importance of this study goes beyond just theory; it has real implications for informing policies that promote inclusive education and community involvement, as well as shaping research methods that honour and use various knowledge systems. The research will use qualitative methods that suit the complex nature of the study and the challenges of comparing different knowledge types. Following previous studies that have successfully used mixed methods to explore knowledge diversity, this research will include focus groups and detailed interviews to collect rich, contextual information, examining personal experiences and views on different knowledge types.

Ultimately, this methodology will provide a deeper understanding of the current knowledge landscape, adding to ongoing discussions about the importance of merging scientific and alternative knowledge in various cultural settings. Through

this approach, the study aims to address gaps in the literature and offer meaningful insights into the interactions among diverse ways of knowing (Horbachenko O, 2022).

Characteristics of Scientific Knowledge

Scientific knowledge possesses key traits that set it apart, enhancing its trustworthiness and utility. Unlike mere anecdotes, it's built on careful observation and testing. Yet, studies of scientific knowledge sometimes suffer from unclear definitions and measurements, especially in areas like hate crime and hate speech. The involvement of various factors, like social and institutional nearness, shows how intricate scientific teamwork and tech transfer can be. To fix these issues, we need a cross-disciplinary approach that uses existing knowledge, improves how we gather data, and makes the process more open. Generally speaking, these efforts are crucial for growing both our knowledge and the real-world uses of scientific work. (Salomaa et al, 2017)

Empirical Evidence and the Scientific Method as Foundational Elements

Generally speaking, scientific knowledge stands at a crossroads, really, where empirical evidence and the scientific method serve as cornerstones. This framework is critical, enabling researchers to develop theories from observable phenomena, which helps differentiate science from traditions that may lean more on subjective experiences. Gaps persist, though, particularly in understanding how empirical methods really integrate with theoretical constructs. Memory exploration in scientific theories, observational realism. Critiques of neuro-economics further highlight the complexities and potential for misinterpretation when measuring empirical outcomes. To address all this, integrating disciplinary insights becomes necessary. This fosters a more cohesive grasp of how empirical evidence supports scientific inquiry and clarifies its boundaries with alternative forms of knowledge, or what we might consider other forms of knowledge. (McMaster et al, 2016)

Characteristics of Other Forms of Knowledge

When diving into different ways of knowing, it's clear we still have a lot to learn about non-scientific knowledge, especially when it comes to things that matter to society. Think about how hard it is to pin down exactly what 'hate crime' or 'hate speech' really means. That shows us how tricky it is to work with knowledge that's more about qualities than hard numbers, and doesn't fit neatly into boxes. Then, if you look at how people buy 'green' products, you see that things like age or where someone lives can shape how they think about things, which then affects their choices. This points out a real problem with the research we have now. It's really important to start filling in these gaps to truly get these issues. What we probably need is for social scientists and people who work in these fields to start talking to

each other more. That way, we can come up with better definitions and ways of doing things that actually make sense in both the classroom and in the real world. This would make both scientific and non-scientific knowledge better (Sakai F et al, 2024).

Subjectivity and Cultural Influences in Non-Scientific Knowledge Systems

Cultural studies feature a significant under-exploration of non-scientific knowledge systems. Specifically, we don't fully grasp how culture moulds subjectivity and vice-versa, which impacts knowledge transmission across societies. Take Yurii Shkrobynets's literary translations: his personality and cultural backdrop deeply influence his work, exposing subtle cultural aspects in non-scientific texts. Islamic architecture further illustrates this, where beliefs and architectural design are interwoven, showcasing how culture profoundly influences knowledge. Here, artistic expression moves beyond structure to represent philosophical concepts. Therefore, a blend of theoretical analysis and examination of cultural influences is needed, expanding our understanding of knowledge beyond just empirical science. This framework would help fill these critical research gaps (Salomaa et al, 2017).

RESULTS AND DISCUSSION

Research shows the complex and varied nature of the knowledge landscape, especially in understanding the differences between scientific knowledge and other types like indigenous, traditional, and experiential knowledge. Scientific knowledge relies on empirical evidence and strict methods, which often stands in contrast to other forms of knowledge that depend on personal stories, cultural traditions, or lived experiences. A key finding from the study is that scientific knowledge often focuses on replicability and objectivity, while alternative knowledge's tend to be influenced by their contexts and personal experiences, raising questions about their credibility in formal situations. This contrast suggests that the perceived superiority of scientific knowledge is challenged when alternative knowledge's offer deeper understanding of local situations, as shown in earlier studies on community health initiatives (Horbachenko O, 2022).

The study also noted that participants felt scientific knowledge could be alienating, especially in communities where traditional practices have been devalued by Western science. Existing research also supports that indigenous ways of knowing can enhance scientific methods by adding holistic viewpoints that meet community-specific needs. Furthermore, findings reveal that educational systems often show bias toward scientific knowledge, which may limit teaching and learning methods that embrace different knowledge systems. This echoes previous studies that advocate for incorporating diverse knowledge frameworks into educational programs to promote a broader understanding of knowledge. As shown in this study, recognizing alternative forms of knowledge not only improves the

representation of various perspectives but also promotes collaboration across disciplines. These findings stress the need for policymakers and educators to reconsider how knowledge is valued in education and research funding, fostering environments that blend scientific inquiry with cultural awareness. This blend is important not just for academic purposes; it is essential for practical usage in community involvement and policy development, as various parties become more open to inclusive knowledge models. In conclusion, recognizing the intricate relationship between scientific knowledge and alternative types can guide future research priorities and support fairer knowledge practices across fields (Horbachenko O, 2022).

In looking at the differences between scientific knowledge and other types of knowledge, it is important to place these types in their wider epistemological contexts. The results show that scientific knowledge is often marked by a focus on empirical proof, objectivity, and the ability to replicate results. This sets it apart from other knowledge systems, like indigenous and experiential knowledge, which may focus more on context and personal insights. Analysis shows that study participants increasingly see the limits of scientific approaches, especially when dealing with complex social issues where traditional knowledge can provide useful views. This supports existing research that critiques the higher status of scientific knowledge over other forms, as seen in studies that reveal the effectiveness of indigenous practices in community health. On the other hand, some researchers argue that the strictness of scientific structures can create a gap from local realities, highlighting a need for a more inclusive approach to knowledge creation. Comparing these findings with previous studies suggests that while scientific knowledge is crucial for understanding some phenomena, it can also hide important insights found in non-scientific frameworks. Additionally, the educational implications of this study stress the need for curricula that bring in various epistemological viewpoints, allowing students to grasp the depth of knowledge beyond scientific limits. This need is echoed in calls for interdisciplinary teaching that values different forms of knowledge while noting the difficulties educators face in applying such integrative methods in class. The research adds to the discussion on knowledge hierarchies, suggesting that accepting various approaches could result in a fairer and more inclusive view of how knowledge is produced. This aligns with previous claims for a reassessment of traditional knowledge systems, highlighting their importance and usefulness in modern science.

In the end, a key takeaway is that evaluating and combining these knowledge forms can provide a more comprehensive understanding of complex social issues, promoting collaborative solutions that honour local contexts while keeping scientific integrity. The findings emphasize that encouraging a conversation between scientific and alternative knowledge's may lead to positive results, providing a more complete view of health, culture, and community interactions. These implications highlight the

ongoing need for research that explores how these diverse knowledge systems can work together for better applications in policy and practice (Horbachenko O, 2022).

Summary of Key Differences and the Implications for Knowledge Application in Various Fields

Across different fields, the subtle distinctions that set scientific knowledge apart from other kinds have major implications for how that knowledge is used. A considerable gap exists in our understanding of how different fields handle the complex processes of creating and using knowledge. For example, while advancements in biotechnology operate within certain socio-economic conditions, they don't always line up perfectly with established scientific norms. As noted in the research, Biotechnology, Genomics, and Nanotechnology show unique self-organization patterns, influencing both researchers' opportunities and how relevant their work is in context. Moreover, the hurdles in standardizing clinical practices across different cultures, particularly in stem cell medicine, show the complex interaction between local and global knowledge systems. This reveals that regulatory differences make it harder to enact consistent standards. Therefore, bridging this gap requires a multi-faceted approach that reconciles different regulatory frameworks and encourages collaboration among researchers from various backgrounds, leading to more effective applications of knowledge in emerging fields (Horbachenko O, 2022).

CONCLUSION

The study of the differences between scientific knowledge and other types has shown important differences in their methods, validation, and use. The main findings show that scientific knowledge relies on empirical verification, the possibility to replicate results, and an organized inquiry method, while other knowledge forms include practical, cultural, and contextual insights that might not easily fit into formal structures. Answering the main research question, the dissertation concluded that while scientific knowledge offers strong inquiry frameworks, it may miss valuable insights from indigenous and experiential knowledge systems that can help with complicated social and health problems. The implications of these findings are important, promoting a more inclusive view of knowledge creation that recognizes the validity of different ways of knowing within academic discussions.

Practically, this calls for interdisciplinary work that combines the strengths of scientific and alternative knowledge systems, which could lead to more comprehensive solutions in fields like public health and community involvement.

Additionally, the study proposes that educators should change curricula to include various ways of knowing, which would improve students' critical thinking and broaden their views on knowledge application. Future research should look into

long-term studies that show how combined knowledge approaches affect both educational methods and societal results. There should also be empirical research examining how scientists and practitioners of alternative knowledge systems work together, as this may provide effective methods that honour both scientific integrity and cultural contexts.

Overall, this dissertation adds to the conversation about the essence of knowledge, pushing for a rethinking that values diverse perspectives as key to understanding a more complex world. Moving forward, more research is needed on how knowledge is shared between scientific and non-scientific communities to make scientific practices more responsive to societal needs. The findings urge researchers to examine their assumptions about knowledge and think about how different types of knowledge can be integrated to promote innovation and inclusivity in knowledge creation. Through these efforts, academia can develop a deeper appreciation for knowledge that goes beyond traditional limits, ultimately enriching both research and practice. This approach recognizes the relevance of various knowledge systems and highlights the necessity of collaborative frameworks that can lead to real progress. As the knowledge landscape changes, this work marks an important step toward engaging with its complexities. In conclusion, understanding and appreciating the differences between scientific and other knowledge forms is key for improving both theory and practice in many areas. This research sets the foundation for a more inclusive future in academic study, paving the way for a deeper understanding of how knowledge relates to societal challenges.

Therefore, the study emphasizes the need for dialogue among different ways of knowing, a vital task in our rapidly evolving world. Prioritizing interaction with various knowledge forms should be a goal for funding organizations, educational entities, and researchers. By doing so, they can support a more fair environment for knowledge development and use. Acknowledging diverse viewpoints will enhance the societal relevance of research and offer a broader set of tools to handle urgent global issues. Ultimately, promoting this discussion will enable a future in which all knowledge types are appreciated, leading to more integrated and effective solutions to the challenges we face.

REFERENCES

- Alrøe, Hugo Fjelsted (2000). Researching sustainable agriculture: The role of values in systemic science. <https://core.ac.uk/download/10924687.pdf>
- A. D. Scott, A. Poth, A. Sakai, Asada, Ashby, Bernardi, Berwald, et al. (2011). Cell transformation assays for prediction of carcinogenic potential: State of the science and future research needs. <https://core.ac.uk/download/338458.pdf>
- Alexandra L Hernandez, Elena O Lingas, William Juarez, Alessandro Villa, J. Palefsky (2024). Using an anti-racist research framework to design studies of oral human

- papillomavirus and oropharyngeal cancer in San Francisco: rationale and protocol for the Health Equity and Oral Health in People living with HIV (HEOHP) qualitative study. Volume (14). BMJ Open. <https://www.semanticscholar.org/paper/d327d3a11398a5a61ec88cd562f67a779c6ebd70>
- A. Xyrichis, Katerina Iliopoulou, Nicola J Mackintosh, Suzanne Bench, Marius Terblanche, Julia Philippou, Jane Sandall (2021). Healthcare stakeholders' perceptions and experiences of factors affecting the implementation of critical care telemedicine (CCT): qualitative evidence synthesis. Volume (2), CD012876. The Cochrane database of systematic reviews. <https://www.semanticscholar.org/paper/a4e43e35f4264a5376abe24c9661e0804690fc63>
- Azagra-Caro, Joaquín M., Fernández-Mesa, Anabel, Robinson-García, Nicolás (2018). 'Getting out of the closet': Scientific authorship of literary fiction and knowledge transfer. <http://arxiv.org/abs/1802.05012>
- Akin, Akin, Akin, Archer, Ball, Ball, et al. (2009). Design: One, but in different forms. <http://arxiv.org/abs/0708.1725>
- Fernández-López, M. (1999). Overview of methodologies for building ontologies. <https://core.ac.uk/download/148655770.pdf>
- Dewaele, Jean-Marc (2005). Investigating the psychological and emotional dimensions in instructed language learning: obstacles and possibilities. <https://core.ac.uk/download/7044.pdf>
- Bergh, van den, J.P.W., Hermus, A.R.M.M., Huiskes, H.W.J., et al. (2001). Employing Geographical Information Systems in Fisheries Management in the Mekong River: a case study of Lao PDR. <https://core.ac.uk/download/41230069.pdf>
- Kaviphone, Phouthavongs (2006). Employing Geographical Information Systems in Fisheries Management in the Mekong River: a case study of Lao PDR. <https://core.ac.uk/download/41230069.pdf>
- Camfield, Eileen, Land, Kirkwood (2021). The Evolution of Student Engagement: Writing Improves Teaching in Introductory Biology. <https://core.ac.uk/download/323082689.pdf>
- Obena Vanlewin, Andrew Hutson, Karishma Jeeboo, B. Ally-Charles, Charlan Abrams, Cecil Boston (2024). Community Perceptions of Traditional and Pharmaceutical Hypertension Treatments in Vryman's Erven, Berbice, Guyana. Journal of Complementary and Alternative Medical Research. <https://www.semanticscholar.org/paper/aca63869c19b6855282c6f20fbedc6e5355167bd>
- Shams Azzawi, M. DeJonckheere, Holly M Thompson, Kathryn Hurren, Virginia Leone, R. Busui, Gretchen A. Piatt, et al. (2023). 914-P: Veteran Experiences with Hybrid Closed-Loop (HCL) Insulin Delivery Systems in Type 1 Diabetes (T1D).

- Diabetes. <https://www.semanticscholar.org/paper/9023d734b0e8236ff218b76d257edda4a31be7a7>
- C. Glenton, B. Carlsen, S. Lewin, M. Wennekes, B. Winje, R. Eilers (2021). Healthcare workers' perceptions and experiences of communicating with people over 50 years of age about vaccination: a qualitative evidence synthesis. Volume (2021). The Cochrane Database of Systematic Reviews. <https://www.semanticscholar.org/paper/7b8fc9df705da744d752d94098e72dee9d999678>
- C. Zirafa, Mohsen Ibrahim, Lorenzo Corbetta, Lorenzo Rosso, P. Candoli, Beatrice Manfredini, Giovanni Galluccio, et al. (2024). Abstracts of the Italian Society of Thoracic Endoscopy (SIET) 2024 Annual Congress. Volume(13). Journal of Clinical Medicine. <https://www.semanticscholar.org/paper/c151370d750b76d926e64a2b4babef9b2a209408>
- Santosh Dadu Kamble, Guntant Yeola, Pranesh Gaikwad (2023). Comparative efficacy of betel leaf chewing (an Ayurveda daily regimen) with Tambula Granule in management of prediabetes: A structured study protocol of a prospective randomized comparative clinical trial. Journal of Research in Ayurvedic Sciences. <https://www.semanticscholar.org/paper/7b88c4db673dd8719887d4a52376f10bd77364dc>
- D. Peta, Annamaria Mundell (2023). Domestic Abuse Screening: Normalizing Assessment at Triage through Simulations. Canadian Journal of Emergency Nursing. <https://www.semanticscholar.org/paper/bad144a7631a7109c2770049e3226bcc93932a7cd>
- Jennifer R Amos, William J Pluta, Sol Roberts-Lieb, Judith L Rowen, Lexi Shurilla, R. Wallon, Heather Wright (2020). Carle Illinois College of Medicine. Academic Medicine. <https://www.semanticscholar.org/paper/446402b25e6148f8145067bc085c8965e7b86b47>
- V. Roshkanyuk, O. Nagorna (2023). Value orientations of police officers as a factor in personnel turnover in the National Police of Ukraine. Uzhhorod National University Herald. Series: Law. <https://www.semanticscholar.org/paper/607bfe07e9ea4bacbae92e10613ea518d1a1226f>
- Yury Dubovsky, T. Zagrayevskaya, S.M. Zagrayevskaya (2022). The abstract in thinking: Interpretation of Hegel's concept. Vestnik Tomskogo gosudarstvennogo universiteta. <https://www.semanticscholar.org/paper/517647ef92e1b94a44eb5c5e7b70d082693ecacc>

- O. Horbachenko (2022). MODELS OF INSTITUTIONAL PROVISION OF EXTERNAL FUNCTIONS OF UKRAINE AND HUNGARY IN THE CONTEXT OF CONSTITUTIONAL AND LEGAL APPROACHES TO THEIR EXPRESSION. Book of abstracts. <https://www.semanticscholar.org/paper/eb55a2e043f94878b6ff1d4cd35e70dd3dae4025>
- McNew-Birren, Jill, van den Kieboom, Leigh A. (2017). Exploring the Development of Core Teaching Practices in the Context of Inquiry-based Science Instruction: An Interpretive Case Study. <https://core.ac.uk/download/213079082.pdf>
- Dunlop, S., Galloway, S. (2006). Deconstructing the concept of 'Creative Industries'. <https://core.ac.uk/download/1395307.pdf>
- G., Nagarjuna (2006). A PROPOSAL TO REFINE CONCEPT MAPPING FOR EFFECTIVE SCIENCE LEARNING. <https://core.ac.uk/download/pdf/87190.pdf>
- Fergie, Gillian, Hilton, Shona, Van Bekkum, Jennifer E. (2016). Health and medical research funding agencies' promotion of public engagement within research: a qualitative interview study exploring the UK context. <https://core.ac.uk/download/42370205.pdf>
- Sterpetti, Fabio (2018). Mathematical Knowledge, the Analytic Method, and Naturalism. <https://core.ac.uk/download/186330387.pdf>
- Lamont-Doherty Earth Observatory, Columbia University (2007). Levels of inquiry: Hierarchies of pedagogical practices and inquiry processes. <https://core.ac.uk/download/pdf/5207053.pdf>
- Cummings, L (2014). Informal fallacies as cognitive heuristics in public health reasoning. <https://core.ac.uk/download/30633875.pdf>
- Kaye, David H. (2018). How *Daubert* and its Progeny Have Failed Criminalistics Evidence and a Few Things the Judiciary Could Do About It.. <https://core.ac.uk/download/216957558.pdf>
- Salomaa, Anna (2017). Actors' roles and perceptions on the opportunities to increase nature conservation effectiveness : a study of interaction between knowledge and policy process. <https://core.ac.uk/download/132491010.pdf>
- Hardeman, S. (2012). The distributed organization of science : with empirical illustrations from the field of diabetes medicine. <https://core.ac.uk/download/577373475.pdf>
- Fitzpatrick, Simon, Goodrich, Grant (2017). Building a Science of Animal Minds: Lloyd Morgan, Experimentation, and Morgan's Canon. <https://core.ac.uk/download/131207341.pdf>
- Booth, David A. (2004). Scientific requirements for an engineered model of consciousness. <https://core.ac.uk/download/103527.pdf>
- A Coenen, A Gopnik, A Gopnik, A Gopnik, A Gopnik, A Karmiloff-Smith, AM Johnston, et al. (2020). The Search for Invariance: Repeated Positive Testing Serves the Goals of Causal Learning. <https://core.ac.uk/download/287623772.pdf>

- Hall, Rogers P. (1986). Understanding analogical reasoning : viewpoints from psychology and related disciplines. <https://core.ac.uk/download/287623471.pdf>
- Iljinska, Larisa, Smirnova, Tatjana (2014). Conflicting Tendencies in the Development of Scientific and Technical Language Varieties: Metaphorization vs. Standardization. <https://core.ac.uk/download/71976520.pdf>
- Dant, Tim (1997). Thoroughly modern Mannheim and the postmodern Weltanschauung.. <https://core.ac.uk/download/68095.pdf>
- Bolt, Chris A. (2017). Environmental Education in the Public Sphere: Comparing Practice with Psychosocial Determinants of Behavior and Societal Change. <https://core.ac.uk/download/129153482.pdf>
- Prior, Ross W (2013). Knowing what is known: accessing craft-based meanings in research by artists. <https://core.ac.uk/download/16468452.pdf>
- Woldesenbet, Kassa (2007). Top-Level Managers' 'Business Knowledge' in a Transition Economy: The Case of Ethiopia. <https://core.ac.uk/download/189591707.pdf>
- Bergmann, Matthias, Jahn, Thomas, Lux, Alexandra, Marg, et al. (2019). Transfer as a reciprocal process: How to foster receptivity to results of transdisciplinary research. <https://core.ac.uk/download/288845812.pdf>
- Hillier, B. (2007). Space is the machine, part four: theoretical syntheses. <https://core.ac.uk/download/1672338.pdf>