INTERNATIONAL JOURNAL OF LAW

MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 8 | Issue 3

2025

Follow this and additional works at: https://www.ijlmh.com/

Under the aegis of VidhiAagaz – Inking Your Brain (https://www.vidhiaagaz.com/)

In case of **any suggestions or complaints**, kindly contact **support@vidhiaagaz.com**.

To submit your Manuscript for Publication in the **International Journal of Law Management & Humanities**, kindly email your Manuscript to **submission@ijlmh.com.**

Digital Ontology and Digital Humanities: Facilitating the Decolonization of Education and Research

DR. VIVEK PACHAURI[1]

ABSTRACT

The global landscape of education and research is increasingly recognizing the enduring impacts of colonialism on knowledge systems and pedagogical practices. This has spurred a significant movement towards decolonization, aiming to dismantle historical power imbalances and promote inclusivity across all aspects of learning and knowledge creation. Simultaneously, the rise of digital technologies has introduced new methodologies for organizing, analysing, and disseminating information. Among these, digital ontology and digital humanities stand out as potentially transformative tools in the pursuit of a more equitable and representative academic sphere. This paper investigates the definition of digital ontology and its capacity to contribute to the decolonization of the education system, reading practices, and research methodologies. Furthermore, it examines the role of digital humanities in advancing this critical agenda. The analysis draws upon a range of reliable sources to explore the intricate relationship between these concepts and their implications for facilitating a decolonized academic environment.

I. DEFINING DIGITAL ONTOLOGY

In the realm of information science, an ontology serves as a structured framework that formally names and defines the categories, properties, and relationships between concepts within a specific domain[2]. It provides a representational model that encompasses entities, including both objects and events, along with their interconnected attributes. Gruber, in 1993, offered a widely accepted definition of ontology as an explicit specification of a conceptualization[3]. Extending this to the digital sphere, digital ontology, for the purposes of this paper, refers to the application of these principles within digital environments, focusing on the representation of digital objects and the articulation of their relationships. While the term "digital ontology" is sometimes used

---

[1] Author is an Assistant Professor at Department of History and Civilization, Gautam Buddha University, India.

[2] Taniar et al. - IGI Global (701 E. Chocolate Avenue, Hershey, Pennsylvania, 17033, USA) - 2006

[3] Thomas R. Gruber, *A translation approach to portable ontology specifications*, 5 Knowledge Acquisition 199–220 (1993). See also http://www-ksl.stanford.edu/kst/what-is-anontology.html .Provides a definition of ontology as a technical term for computer science, tracing its historical context from philosophy and AI. Definitional article in the encyclopaedia of database systems on ontology. Update of 1993 ontology definition

to denote a philosophical perspective suggesting that reality is fundamentally digital, this analysis will primarily focus on the information science perspective, examining how ontologies can be utilized within digital systems to address issues of decolonization in education.

Several key characteristics define an ontology. It is formal, meaning it is machine-readable and designed to support automated reasoning. Ontologies are also explicit, with clearly defined concepts and constraints on their use. They aim to capture shared or consensual knowledge that is accepted by a community. A core aspect of an ontology is its conceptualization, representing an abstract model of a phenomenon by identifying and specifying relevant concepts and their relationships. This conceptualization is often expressed through a logical theory, employing an intentional semantic structure or a logical language to minimize ambiguity. It is important to note that an ontology provides a partial account, representing a domain from a specific perspective and embodying a particular worldview. Fundamentally, ontologies facilitate communication not only between human beings but also between humans and software systems, and among software systems themselves.

Ontologies can be categorized into various types based on their scope and purpose. Formal ontologies are concerned with the underlying structure of existence, focusing on fundamental relations such as identity, parthood, and dependence. In contrast, material ontologies aim to provide a detailed and exhaustive inventory of what exists within specific scientific and social disciplines. Reference ontologies are designed to be modular and orthogonal, with interconnected terms spanning different domains[4]. Application ontologies are tailored for specific tasks or applications, representing only the knowledge relevant to those particular uses. Top-level ontologies, such as the Basic Formal Ontology (BFO), contain general classes applicable across diverse domains[5]. Finally, domain-specific ontologies focus on a particular area of knowledge, such as education or medicine.

The fundamental building blocks of an ontology include classes, instances, and relations[6]. A class, often called a concept or category, is a representation of a group of instances that possess shared characteristics.[7] They can be defined by enumerating their members (extension) or by specifying criteria for membership (intension). Classes are often organized hierarchically, with

---

[4] Ludger JANSEN, Ontologies for the Digital Humanities, https://ceur-ws.org/Vol-2518/paper-WODHSA5.pdf (last visited May 17, 2025).

[5] Selja Seppälä & Amanda Hicks, enhancing terminological knowledge with upper-level ontologies CEUR workshop proceedings (2015), https://pubmed.ncbi.nlm.nih.gov/27011763/ (last visited May 15, 2025).

[6] Taniar, David (28 February 2006). Web Semantics & Ontology. Idea Group Inc (IGI). ISBN 978-1-59140-907-6.

[7] Timothy Tambassi, *Geo-ontologies, Digital Humanities and ancient world*, Springer Briefs in Geography 37–43 (2017).

subclasses representing more specific categories within broader super classes. Instances, or individuals, are the basic, concrete elements of an ontology, representing specific entities. Relations describe how classes and instances are connected and interact within the domain. These relations can be reflexive (linking one class), binary (linking two classes), or n-ary (linking more than two classes).[8] The way these components are defined, and the relationships established are critical and can be influenced by underlying assumptions and perspectives.

Table A

Key Characteristics of Digital Ontology		
Feature	**Description**	**Relevance to Decolonization**
Formal	Machine-readable and suitable for automated reasoning	Allows for systematic analysis of knowledge structures to identify biases.
Explicit	Concepts and constraints are clearly defined	Makes underlying assumptions and perspectives within knowledge systems transparent, facilitating critical examination.
Shared	Captures consensual knowledge accepted by a community	Raises questions about whose consensus is represented and whether marginalized perspectives are included. Decolonization requires ensuring broader and more inclusive representation in the conceptualization process.
Conceptualization	An abstract model of a phenomenon with relevant concepts and relationships	Provides a framework for modelling diverse knowledge systems, including those with non-Western epistemologies and ontologies.
Logical Theory	Expressed by an intentional semantic	Offers a way to represent complex relationships between concepts in a

---

[8] Maryam Fazel- Zarandi, & Mark S. Fox, An Ontology for Skill and Competency Management, 239 in Formal Ontology in Information Systems, Proceedings of the Seventh International Conference 89–102 (2012).

	structure or a logical language to reduce ambiguity	nuanced manner, potentially accommodating diverse worldviews.
Partial	Represents a domain from a specific perspective, entailing a worldview	Highlights the importance of acknowledging the inherent perspective in any ontology and considering whose worldview is being represented. Decolonization involves bringing alternative worldviews to the forefront.
Communication	Supports communication between humans, between humans and software systems, and between software systems themselves	Facilitates the sharing and understanding of diverse knowledge across different stakeholders and systems, potentially bridging gaps between different cultural and academic perspectives.

II. UNDERSTANDING THE IMPERATIVE FOR DECOLONIZING EDUCATION AND RESEARCH

Decolonizing education is a multifaceted and urgent endeavour that seeks to dismantle the colonial frameworks deeply embedded within teaching practices and curriculum. This process goes beyond simply including diverse content; it necessitates a fundamental shift in the epistemological paradigm and the very ways in which knowledge is produced, accredited, and disseminated. The core aim is to challenge the historical legacies and dominant forms of knowledge that have systematically favoured certain groups, countries, and cultures over others. Decolonization strives to amplify marginalized voices, challenge the monopoly of a single (often Western) approach to knowledge, and cultivate a genuine awareness of multiculturalism.[9] Ultimately, it seeks to rebuild educational systems that equitably support all students, staff, and teachers, particularly by incorporating the perspectives of those who were once colonized or enslaved. This requires a close look at the limitations and biases embedded in current educational content, the missing elements in teacher preparation, and the enduring effects of

---

[9] Ranjan Datta & Teena Starlight, *Building a meaningful bridge between indigenous and western worldviews: Through decolonial conversation*, 23 International Journal of Qualitative Methods (2024), https://journals.sagepub.com/doi/10.1177/16094069241235564 (last visited May 17, 2025).

colonial policies on schooling.[10] It is a process of enabling liberatory thought and practices that open up possibilities for recognizing other knowledges and alternative worldviews.

However, the path to decolonizing education is fraught with challenges[11]. Institutions often face significant resistance to change from individuals and groups comfortable with the existing status quo. Limited resources, including access to diverse instructional materials and adequate teacher training, can also hinder progress. The presence of tightly structured learning programs and standardized tests can restrict the flexibility needed to incorporate diverse approaches and perspectives.[12] Furthermore, a lack of diverse voices and representation in decision-making positions within educational institutions can slow down or dilute decolonization efforts, leading to decisions that inadvertently uphold colonial norms. The deeply ingrained nature of colonial influences in academic structures, curriculum content, pedagogical approaches, and even institutional cultures necessitates more than superficial adjustments; it demands a fundamental rethinking and redesign of how education is approached. Addressing the behaviours of faculty, students, and staff that contribute to the perpetuation of historical inequalities is also a critical challenge.

Despite these obstacles, several key principles guide decolonization efforts. A central tenet is to amplify marginalized voices and develop a profound awareness of multiculturalism. This includes actively questioning what knowledge is currently excluded from education and revising curricula to incorporate historically excluded stories. Achieving decolonization means making our teaching practices more inclusive through open-ended, multilingual, and multicultural methods. It emphasizes the importance of centring Indigenous ways of knowing and learning across all areas of the curriculum and institution[13]. This involves challenging traditional paradigms, confronting power dynamics, and recognizing the validity of non-Western critical traditions and genealogies of thought[14]. A crucial aspect is the acknowledgment of colonial privilege and the necessity for individuals to actively "unlearn" Eurocentric, white-supremacist worldviews and ways of being. Ultimately, decolonization seeks to support fairness by addressing systemic oppressions that violate equity in relation to race, gender, and colour,

---

[10]Decolonising Education, National Education Union (2023), https://neu.org.uk/advice/equality/race-equality/decolonising-education (last visited May 17, 2025).

[11]Andrea R English & Ruth Heilbronn, Decolonizing the curriculum: Philosophical perspectives—an introduction, 58 Journal of Philosophy of Education 155–165 (2024).

[12] Achille Joseph Mbembe, Decolonizing the university: New Directions, 15 Arts and Humanities in Higher Education 29–45 (2016).

[13] Marie Battiste, maintaining aboriginal identity, language, and culture in modern society, Reclaiming Indigenous Voice and Vision 192–208 (2007).

[14] Capucine Boidin, Ramón Grosfoguel & James Cohen, Introduction: From University to Pluriversity: A Decolonial Approach to the Present Crisis of Western Universities , 10 Human Architecture: Journal of the Sociology of Self-Knowledge.

and to promote research into the positive effects of integration and the enhancement of inclusive curricula.

III. THE POTENTIAL OF DIGITAL ONTOLOGY IN DECOLONIZING EDUCATION

Digital ontology presents a significant opportunity to contribute to the decolonization of education by providing a structured means to identify and make explicit the often-unacknowledged biases and assumptions embedded within educational curricula and resources.[15] By formally representing the conceptual frameworks of a curriculum as an ontology, researchers and educators can systematically examine its components, revealing whose perspectives are prioritized and which knowledge systems are privileged. This explicitness can expose the dominance of Western epistemologies and pedagogies that may have historically marginalized other ways of knowing. For instance, an ontology could map the representation of historical events, highlighting a disproportionate focus on European history while underrepresenting or misrepresenting the histories and perspectives of African or Indigenous peoples.[16] Similarly, in science education, an ontology might reveal a curriculum that exclusively promotes a Western scientific approach, neglecting valuable Indigenous ecological knowledge. By scrutinizing the historical and ongoing impacts of colonialism as they are reflected in educational content, ontologies can serve as a powerful analytical tool. Furthermore, they can help identify curricula that perpetuate a nature-culture divide or promote human exceptionalism, views often rooted in settler-colonial ideologies.

Digital ontology also offers a robust framework for representing diverse knowledge systems, including Indigenous knowledge and perspectives that have been historically marginalized by colonial structures. Unlike traditional linear or hierarchical structures that may struggle to accommodate non-Western epistemologies, ontologies can be designed to incorporate alternative ways of codifying the world and understanding relationships. For example, digital storytelling, facilitated by ontological frameworks, can effectively project indigenous African perspectives and cultural heritage, providing a platform for voices and narratives that have been historically silenced[17]. Ontologies can be utilized to value and integrate Indigenous knowledge traditions alongside Western knowledge, creating an "ethical space" where diverse perspectives

---

[15] Dmitriy Pospelov, Ontologies in the Digital Age: Advantages, Limitations, and Alternative Development Paths (2023).

[16] Jessica McLean, Decolonising Digital Technologies? Digital Geographies and Indigenous Peoples, in Changing Digital Geographies 91–111, https://link.springer.com/book/10.1007/978-3-030-28307-0 (last visited Apr 18, 2025).

[17] Araba A Osei-Tutu, Developing African oral traditional storytelling as a framework for studying with African Peoples, 23 Qualitative Research 1497–1514 (2022).

are not only included but also recognized as equally valid.[18] This approach can support the re-establishment of crucial links to community and place-based knowledge, acknowledging the deep connection between culture, environment, and learning. Moreover, ontologies can be designed to reflect the unique structures and principles of Indigenous knowledge systems, such as relational accountability, which emphasizes the interconnectedness of all things.[19] By facilitating the integration and recognition of indigenous and pluriverse knowledge, digital ontology can contribute to a more comprehensive and representative understanding of the world.

By providing flexible and adaptable structures for representing both knowledge and learner characteristics, digital ontologies can significantly facilitate the creation of more inclusive and equitable educational frameworks. Instead of adhering to a "one-size-fits-all" model, ontologies can support "education in the diversity" by highlighting the learning skills and strengths of each student, rather than focusing on perceived deficits or disabilities.[20] They can be used to classify learners based on their dominant characteristics, enabling educators to suggest suitable and personalized teaching methods. Ontological scrutiny can emphasize relational ontologies, promoting a deeper understanding of heterogeneous learning environments and supporting the development of inclusive practices among educators. Ontology-based design can also enhance the clarity and transparency of learning standards by specifying core content and cognitive demands in a multi-dimensional map of a learning domain. Furthermore, ontological models can be employed for personalized and inclusive learning within Massive Open Online Courses (MOOCs) by effectively considering the diverse profiles and needs of learners.[21] Exploring ontologies of being and becoming a teacher can shift the focus away from standardized competencies towards more nuanced and inclusive pedagogical approaches that recognize the complex relationships between teaching and thinking.

IV. LEVERAGING DIGITAL ONTOLOGY FOR READING TEXT AND WRITING RESEARCH

Digital ontology significantly enhances the processes of reading and interpreting texts by providing a rich semantic context and revealing the underlying conceptual structures. Unlike

---

[18] David Ludwig, Overlapping ontologies and Indigenous Knowledge. from integration to ontological self-determination, 59 Studies in History and Philosophy of Science Part A 36–45 (2016).
[19] Id
[20] Kristian Stancin, Patrizia Poscic & Danijela Jaksic, Ontologies in Education – State of the art, 25 Education and Information Technologies 5301–5320 (2020).
[21] Abram Anders, Theories and applications of massive online open courses (moocs) : The case for hybrid design, 16 The International Review of Research in Open and Distributed Learning (2015).

traditional methods that rely on simple keyword matching, ontologies enable the semantic organization and retrieval of information, allowing for searches based on meaning and relationships between concepts[22]. This capability is particularly valuable for understanding descriptions in ancient texts, where ontologies can link disparate data points and facilitate reasoning across them, uncovering previously unknown connections. Moreover, ontologies can account for the historical evolution of concepts and shifts in their meanings over time, adding a crucial layer of depth to textual analysis. Formal ontologies play a vital role in fixing the meaning of terms, thereby enabling semantically disambiguated searching and improving the precision and recall of information retrieval. By forming the knowledge scaffolding of information, ontologies provide essential reference values for both structured and unstructured data, contributing to a more comprehensive understanding of textual content.

In the realm of research, digital ontologies serve as powerful tools for organizing data, facilitating information retrieval, and enabling the discovery of new relationships and insights.[23] They support a wide range of data management tasks, including data access, publication, consistency checking, and integration, which are essential for robust research practices.[24] Ontologies can also be used to formally represent scholars' hypotheses about the phenomena they investigate, providing a structured framework for their research. Their capacity to represent and link data from diverse sources is particularly valuable in coping with the inherent complexity of many research domains.[25] By enabling reasoning across all linked data, ontologies can facilitate the discovery of connections and patterns that might not be apparent through traditional analytical methods. Furthermore, ontologies contribute to research rigor by making domain assumptions explicit, ensuring clarity and transparency in the research process.

Digital ontologies support more nuanced and potentially less biased approaches to research by providing a framework for representing complex information from diverse sources. They can accommodate the uncertain or partial nature of information, which is particularly relevant in humanities research dealing with historical events or cultural artifacts. Ontologies can also represent different interpretations and intentional properties ascribed to entities by various

---

[22] Digital ontology structures text meaning. Tools like Protégé build it. Voyant Tools and NLTK analyse texts. Mukurtu CMS ensures ethical decolonial application for Indigenous narratives.

[23] For Tools Visit, Research guides: Digital humanities: About, About - Digital Humanities - Research Guides at Northwestern University, https://libguides.northwestern.edu/dh/about (last visited May 8, 2025).

[24] Salvatore Cristofaro et al., Towards the Representation of Claims in Ontologies for the Digital Humanities, https://ceur-ws.org/Vol-2949/paper6.pdf (last visited May 6, 2025).

[25] C syamili & RV Rekha , Ontology of library and information science theses of the Central Universities in India DigitalCommons@University of Nebraska - Lincoln (2021), https://digitalcommons.unl.edu/libphilprac/5197/ (last visited May 5, 2025).

scholars, acknowledging the subjective aspects of research in many fields.[26] The modular design of reference ontologies, aiming for orthogonality and minimal overlap, promotes clarity and reduces redundancy in knowledge representation. By integrating data from disparate information spaces, ontologies can address the issue of group isolation in research, allowing for a more holistic analysis. Moreover, ontologies can be designed to represent a community's language and understanding of the world, potentially including marginalized knowledge systems that might be overlooked by traditional research frameworks. The concepts of ontological overlap and divergence highlight the potential for knowledge integration across different systems while also acknowledging the limitations imposed by fundamental differences in their conceptualizations, emphasizing the need for ontological self-determination for marginalized knowledge systems.[27] The risk of dominant perspectives overshadowing minority views in knowledge representation underscores the importance of a critical approach to ontology development in research.

V. THE ROLE OF DIGITAL HUMANITIES IN ADVANCING DECOLONIZATION

Digital humanities, as an interdisciplinary field that applies digital tools and methods to humanities research, plays a crucial role in advancing the agenda of decolonization. It encompasses the digital representation of knowledge, including the development and use of formal ontologies to represent entities, concepts, and relationships of interest to scholars.[28] DH also involves the automated analysis of cultural and historical information through algorithmic methods, as well as the presentation of information for pedagogical instruction and the visualization of research results. Critically, digital humanities include a strong emphasis on reflecting about the social and institutional contexts and effects of digital technology, recognizing that software and digital tools are cultural products with their own histories and inherent biases. By developing and sharing research methods that leverage digital tools, DH enables researchers to create and effectively utilize digital approaches in their work.

One of the significant contributions of digital humanities to decolonization is the creation of accessible and representative digital archives that include marginalized voices and perspectives. DH can help make the processes and limits of decolonization more visible and understandable. By actively working to undo the epistemic violence of colonialism, digital humanities projects

---

[26]Steven R. Smith, Ontology, Ontological, in The SAGE Encyclopaedia of Social Science Research Methods 767 (M.S. Lewis-Beck, A. Bryman & T.F. Liao eds., vol. 0, Sage Publ'ns 2004), https://doi.org/10.4135/9781412950589.n 663.

[27] David Ludwig, id

[28]Steven Rings & David Schloen, Two Perspectives on the Digital Humanities, Tableau (Spring 2016), https://tableau.uchicago.edu/articles/2016/04/two-perspectives-digital-humanities.

can challenge dominant narratives and provide platforms for historically excluded communities.[29] Digital archives serve as vital repositories for documenting underrepresented communities and making their histories, cultures, and perspectives accessible to a wider audience online. The creation of decolonial digital archives requires a critical approach that questions normative narratives and encourage the development of genuine collaboration with the communities whose stories are being preserved.[30]

Digital humanities methodologies are instrumental in critically analyzing and challenging colonial legacies embedded within cultural heritage and historical narratives. DH encourages researchers to investigate how and why dominant modes of digital knowledge representation have emerged, recognizing them as historically contingent rather than universally applicable. By questioning whether digital projects inadvertently reinforce coloniality, DH prompts researchers to critically examine their methodologies and strive to delink from colonial structures and ways of thinking. The field also facilitates the analysis of power dynamics that are inherent in the creation, preservation, and interpretation of historical records and cultural artifacts.[31]

Several digital humanities projects actively engage with decolonization efforts, providing concrete examples of this work in practice. The African Origins project, for instance, aims to reinsert the human element into the often-dehumanizing history of colonial transatlantic slave voyages. The African Literary Metadata (ALMEDA) [32]project is developing a metadata ontology specifically designed for African genres in African languages, challenging the dominance of European literary ontologies. Similarly, the Islamic Cultural Archive (ICA)[33] is collaboratively developing cross-lingual ontologies with African academic partners, promoting relational and reflexive knowledge production. Furthermore, digital archives focused on Latina/o/x communities are employing bilingual descriptions to represent their heritage in a non-traditional and decolonial manner[34]. These projects illustrate the diverse ways in which digital humanities can contribute to the crucial work of decolonizing knowledge production and

---

[29] Roopika Risam, Revising History and Re-authoring the Left in the Postcolonial Digital Archive, 18(2) *Left Hist.* 35 (2015).

[30] Bibhushana Poudyal, Building Critical Decolonial Digital Archives: Recognizing Complexities to Reimagine Possibilities, 13 *Xchanges* (2) (Fall 2018), https://www.xchanges.org.

[31] Roopika Risam, New Digital Worlds: Postcolonial Digital Humanities in Theory, Praxis, and Pedagogy (Nw. U. Press 2019).

[32] ALMEDA is a five-year research project that has received funding from the European Research Council (ERC) under the European Union's Horizon Europe research and innovation programme. Grant agreement No: 101097763. https://almedaresearch.org/about-almeda/

[33] Islamic Cultural Archive (ICA), https://www.icanicdl.uni-bayreuth.de/about/ica (last visited June 5, 2025).

[34] Elizabeth Foulis & Brenda D'Souza, Archiving Bilingual Latin@ Oral Histories, 6 Int'l J. Info., Diversity & Inclusion 72 (2022), https://www.jstor.org/stable/48720306.

dissemination.

VI. CHALLENGES AND CONSIDERATIONS

While digital ontology and digital humanities offer significant potential for advancing decolonization, it is crucial to acknowledge the inherent challenges and limitations in their application. One primary concern is the risk of **perpetuating existing biases** within the very design of ontologies and digital projects. Ontologies, by their nature, reflect a particular perspective or worldview, and if not developed with careful consideration, they can inadvertently encode existing societal biases. Dominant modes of digital knowledge representation have historically arisen from specific contexts and reflect particular concerns, often those of Western academic traditions. The concept of a "shared conceptualization" in ontologies might implicitly assume a dominant perspective, potentially marginalizing minority views or alternative knowledge systems.[35] There is also a risk that the term "decolonization" within digital humanities could become an overused and underspecified metaphor, losing its critical edge. Furthermore, the processes of digital knowledge production can still inadvertently decentre indigenous people if not approached with a decolonial lens. The geographical underrepresentation of scholars and institutions from the Global South in the field of digital humanities can also hinder its universal application and limit the diversity of perspectives incorporated.

Ethical considerations and genuine collaboration with the communities whose knowledge and histories are being represented are paramount in decolonization efforts that utilize digital tools. Engaging communities in the design of curricula and digital projects is a key strategy for ensuring that these efforts are relevant and respectful. Decolonized education and research should be rooted in connections to place and community, valuing local knowledge and perspectives. Decolonizing development education, for example, necessitates not only decolonized epistemologies but also decolonized pedagogies and a critical examination of the role of higher education institutions. Digital storytelling, as a method often employed in digital humanities, can be a powerful tool for participatory action research with indigenous populations, but it must be conducted in a respectful and collaborative manner. Establishing caring and meaningful relationships with Indigenous communities and involving them as co-creators in the development of educational and research processes is essential for ethical

---

[35]Corinna Bath, *Common vs. Marginalized Knowledge – A Potential Showstopper for the Semantic Web?*, *Semantic Web Blog* (July 28, 2008), https://semantic-web.com/common-vs-marginalized-knowledge-a-potential-showstopper-for-the-semantic-web/.

decolonization.[36] The concept of Indigenization, which often goes hand-in-hand with decolonization, emphasizes a collaborative process and the importance of building sustainable and respectful relationships with Indigenous communities. Scholars working on decolonial digital archives must be mindful of institutional histories and actively invest in creating collaborative environments where marginalized communities have agency over their own representation. Without these ethical considerations and genuine partnerships, there is a significant risk that even well-intentioned efforts to decolonize using digital tools may inadvertently perpetuate the very colonial dynamics they aim to dismantle.

Table B

Challenges and Principles of Decolonizing Education			
Challenge	**Description**	**Principle**	**Description**
Resistance to Change	Individuals and groups comfortable with the status quo may resist efforts to decolonize.	Amplify Marginalized Voices	Actively seek out and elevate the perspectives and experiences of those who have been historically excluded or silenced within educational systems.
Limited Resources	Lack of access to diverse instructional materials and insufficient teacher training can hinder decolonization efforts.	Challenge Eurocentric Perspectives	Critically examine and question the dominance of Western worldviews, knowledge systems, and methodologies within education and research.
Structural Constraints	Tightly structured learning programs and standardized tests can limit the incorporation of diverse approaches.	Promote Inclusivity	Create learning environments, curricula, and research practices that are welcoming, accessible, and

---

[36] Nganga, L., Kambutu, J., & Maldonado, S. A., Decolonizing Education: Indigenous Teachers' Understanding of Meaningful Education Practices That Promote the Success of Native American Learners, 39 J. Rsch. Childhood Educ. 212 (2025).

			representative of a wide range of cultural backgrounds, identities, and ways of knowing.
Lack of Diverse Representation	Underrepresentation in decision-making positions can slow down or dilute decolonization efforts.	Center Indigenous Knowledge	Recognize the unique value and importance of Indigenous knowledge systems and actively integrate them into all aspects of education and research, moving them from the margins to the center.
Deeply Embedded Colonialism	Colonial influences are deeply ingrained in academic structures, curricula, and institutional cultures, requiring fundamental rethinking.	Acknowledge Colonial Privilege	Recognize the unearned advantages and power derived from colonial history and structures, and actively work to dismantle them.
Implementing New Strategies	Navigating the change to decolonized teaching, learning, and assessment methods can be challenging without clear guidelines.	Value Non-Western Traditions	Seriously consider and integrate the knowledge production of critical traditions and genealogies of thought that originate from outside the Western world.

VII. CONCLUSION

The analysis presented in this paper underscores the significant potential of digital ontology and digital humanities to contribute to the crucial project of decolonizing education and research. Digital ontology offers a structured and explicit framework for analyzing curricula and knowledge systems, revealing underlying biases and creating space for the representation of

diverse perspectives, including those historically marginalized. By leveraging ontologies, educators and researchers can move towards more inclusive and equitable educational frameworks and research methodologies. Digital humanities, with its focus on the application of digital tools to the humanities, provides the means to create accessible and representative digital archives, critically analyze colonial legacies within cultural heritage, and develop innovative projects that centre marginalized voices.

However, the successful application of these digital tools for decolonization requires a critical and reflexive approach. It is essential to be aware of the potential for perpetuating existing biases in the design of ontologies and digital projects and to prioritize ethical considerations and genuine collaboration with the communities whose knowledge and histories are being engaged. The movement towards decolonization is an ongoing and transformative process, and digital ontology and digital humanities offer valuable tools that, when applied thoughtfully and ethically, can play a vital role in encouraging a more decolonized, equitable, and inclusive landscape for education and research.

*****