

STORYTELLING IN THE DIGITAL WORLD: THE POWER OF NARRATIVES AND
ANALOGIES TO DEMYSTIFY EMERGING TECHNOLOGIES

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Vijeta Pai

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by

Vijeta Pai

Supervised by

Dr. Kishore Kunal

APPROVED BY

Ava Buljubasic

Dissertation chair

RECEIVED/APPROVED BY:

Renee Goldstein Osmic

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ABSTRACT

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Vijeta Pai

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Dissertation Chair: <Chair's Name>
Co-Chair: <If applicable. Co-Chair's Name>

As businesses navigate through an increasing reliance on evolving technologies, it has become predominantly important to make technology accessible to people from different educational and cultural backgrounds. This paper presents an overview of emerging technologies and their role in the new evolving world, analyzing the interplay between two distinct genres of creative storytelling and technical writing, and examining the impact of analogies to proliferate comprehension and adoption of emerging technologies among people belonging to diverse backgrounds. It uses the Case Study Methodology, drawing from 207 responses to a Global survey conducted online, with participants from different backgrounds and exposure to emerging technologies. This is then followed by purposive sampling of 5 people belonging to different occupational backgrounds, who, after being presented with 8 analogies to explain cloud computing concepts, are engaged in short semi-structured video interviews. The questions are centered around their preferred analogy, narrative style and comfort with the storytelling format

to understand technical concepts. It concludes by reinstating the fluidity of genre definition, importance of cultural positioning and ethical considerations in communicating technical concepts to people from different backgrounds, finally validating the benefits of using storytelling to develop a contextual understanding of emerging technologies, to increase their accessibility and impact

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CHAPTER I: INTRODUCTION

1.1 Background of Study

As individuals and businesses navigate through unprecedented times and uncertain circumstances, we have witnessed an increasing reliance on technology. Individuals with varying degrees of exposure to technology scramble to either survive or make the most of the situation, it has become crucial to demystify technology, and increase its accessibility and impact. The growing dependency on technology has introduced a need to creatively explain complex technical concepts to people belonging to different backgrounds, in order to make those concepts more relatable and welcoming. Koestler (1964) has identified the “essence of creativity:” as the ability to “view a situation or an object from two different frames of reference, or two ‘unrelated matrices of thought’” (p. 94). This paper discusses two different genres of traditional learning, technical writing and storytelling as the different frames of reference, negotiating the rigid genre boundaries to transmit knowledge about emerging technologies.

While working as a Teaching Assistant with the Game Theory Program at Northeastern University, I witnessed a negotiation between two distinct disciplines and genres belonging to the field of science and arts. The usage of simple games like Apples to Apples, Monopoly, Settlers of Catan, Poker, etc. were incorporated in bi-weekly labs to explain complex technical concepts, algorithms and theories. Students demonstrated not only an improvement in understanding complex concepts, but also steered more towards areas which perplexed them prior to the course. This personal quest into the field of genre studies was later utilized directly while creating a website to explain Cloud Computing concepts and best practices using simple

analogies and storytelling. The current environment has demonstrated a growing need to question genre boundaries and reinforce concepts around emerging technologies to increase their adoption and accessibility. This has also led to the conception of my venture where I'm demystifying emerging technology by creating an immersive learning experience for learners belonging to different backgrounds and ages.

The rapid rise of emerging technologies such as artificial intelligence, virtual reality, and blockchain is reshaping industries and creating new opportunities for innovation across various sectors. This technological revolution is not only transforming the way businesses operate but also fundamentally altering the skills required for success in the modern workforce. As a result, there is an urgent need for exploring creative educational approaches to make technology accessible to individuals from varied backgrounds and ages. Traditional learning and teaching methods, which often emphasize rote memorization and standardized testing, are seldom insufficient to equip learners of different backgrounds with the skills needed to navigate this complex technological landscape. The static nature of conventional education sometimes prove inadequate to keep pace with the dynamic changes occurring in the technical landscape. This gets further complicated as individuals with little to no knowledge about technology scramble to adapt to the changes.

1.2 Intersection of Creativity and Technology

There is an increasing need to explore creative modes of learning that foster adaptability, critical thinking, and problem-solving abilities. These innovative and creative approaches aim to cultivate a growth mindset, helping individuals adapt to new technologies and methodologies. Several innovative learning methods have emerged to address this gap in education.

Project-based learning approach involves students working on complex, real-world projects that require the application of multiple skills and disciplines. It encourages hands-on experience, teamwork, and creative problem-solving.

Gamification has emerged as a powerful pedagogical strategy for conveying technical concepts by integrating elements of game design such as points, leaderboards, challenges, and rewards into learning and development. By transforming abstract or complex material into interactive, goal-oriented experiences, gamification enhances engagement, motivation, and knowledge retention among learners. For example, coding competitions, simulation games, and quiz platforms transform “routine practice into dynamic problem-solving sessions where students can iteratively apply concepts in real-time scenarios” (Elec, 2025). This approach leverages immediate feedback and a sense of progression, encouraging persistence in tackling difficult material while “fostering a collaborative and competitive learning environment” (Siddharth, 2025). Furthermore, gamification allows for personalization and adaptability, “catering to individual learning styles and paces, which is particularly beneficial in technical education where mastery often varies widely among students” (Jain, 2025). Immersive simulations: Virtual and augmented reality technologies can create realistic, interactive learning environments that allow students to gain practical experience in a safe and controlled setting.

Encouraging individuals to work across different fields of study promotes a holistic understanding of complex issues and fosters innovation through diverse perspectives. Interdisciplinary collaboration in teaching technical concepts brings together expertise from diverse fields to create richer, more holistic learning experiences. This approach allows educators to integrate “perspectives from science, mathematics, engineering, social studies, and the arts, fostering student’s critical thinking, creativity, and real-world problem-solving abilities”

(Glendale, 2025). Through collaborative planning and teaching, such as team-teaching units where overlapping content is addressed, several individuals are exposed to complex problems that require “multifaceted solutions and the application of skills beyond a single discipline” (Sanders, 2003). Interdisciplinary work encourages communication, adaptability, and the development of declarative, procedural, and structural knowledge, which are “essential for understanding and applying technical concepts in diverse contexts” (Propello, 2022). By mirroring the interconnectedness of knowledge found in modern careers and society, interdisciplinary collaboration prepares various individuals and learners to innovate and collaborate in their respective environments.

Leveraging AI and data analytics, educational institutions can tailor learning experiences to individual student needs, preferences, and pace, maximizing learning outcomes. AI tutors, or personalized learning is transforming the way technical concepts are taught by delivering flexible, adaptive, and individualized educational experiences. AI tutors utilize machine learning, data analytics, and natural language processing to assess each learner’s needs, pace, and preferences, adjusting the content and feedback accordingly (Arpita, 2025). This personalization allows students to receive targeted explanations, practice, and real-time feedback that reinforce difficult concepts, keeping learners motivated and reducing frustration (Chhabra, 2025). Furthermore, AI tutors can track progress, identify areas of weakness, and suggest tailored study paths or resources, ensuring efficient mastery of technical material (Buckley, 2025). They are accessible around the clock and often offer multilingual support, breaking down accessibility barriers and enabling students worldwide to learn technology topics at their own pace. Evidence indicates that students using AI tutor-powered personalized learning tools improve academic performance, especially in STEM subjects, as the tailored approach better

addresses individual gaps and learning styles (Ryan, 2025). As a result, AI tutor led learning is not only increasing retention and understanding of technology but is also democratizing access to technical education globally.

Teaching individuals to approach problems and learning with empathy, creativity, and iterative problem-solving techniques prepares them for tackling complex, open-ended challenges in their future careers. Design thinking has become a transformative methodology for teaching technical concepts, emphasizing a human-centered, iterative approach that cultivates creativity, empathy, and problem-solving skills in learners. This is rooted in five core stages to empathize, define, ideate, prototype, and test. Design thinking encourages individuals and educators to move beyond rote memorization, “actively engaging them in the process of understanding real-world problems and developing innovative solutions” (Alvarado et al., 2025). By centering learning on user needs, design thinking fosters deeper comprehension of technical material as students are challenged to “define authentic problems, brainstorm multiple solutions, and develop and refine tangible prototypes through feedback and collaboration” (Alvarado et al., 2025). This hands-on and experiential process not only boosts critical and creative thinking but also promotes interdisciplinary teamwork and resilience in dealing with complex challenges. Furthermore, the framework’s adaptability allows integration into diverse technical subjects, “supporting personalized and inclusive education that prepares students for the dynamic demands of modern technological fields” (Techradiance, 2025).

As the pace of technological advancement continues to accelerate, the importance of creative and adaptive learning approaches will only grow. Educational institutions, policymakers, and industry leaders must collaborate to ensure that curricula and teaching methods evolve in tandem with technological progress.

1.3 Rise of Emerging Technologies

Emerging technologies can be understood as novel methods to use science and technology and adapt in an evolving world. These technologies represent a transformative force in contemporary society, reshaping industries, economies, and daily life. Defined as “innovations still in early stages but with high transformative potential, these technologies range from artificial intelligence (AI) and nanotechnology to blockchain, 5G expansion, and biotechnology” (Prasser, 2025). They are evolving entities that exist in a state of coming into being and dynamically changing to adapt to the developing worldview and landscape. This evolution has become increasingly important in the current socio-political and economic scenario, since they have the potential to adapt to the ongoing scheme of events.

Emerging technologies are typically characterized by their “novelty, rapid development, and the potential to disrupt conventional systems” (Prasser, 2025). They frequently arise from the convergence of different scientific and technical disciplines, for example, the intersection of computing and materials science has led to the development of nanotechnology, while AI draws on advances in both software engineering and cognitive science.

According to Louisa Fitzgerald (2020), the predominant emerging technologies 2020 can be listed as follows:

- “1. Artificial Intelligence
2. 5G
3. Internet of Things
4. Serverless Computing
5. Biometrics
6. Augmented Reality / Virtual Reality

7. Blockchain
8. Robotics
9. Natural Language Processing
10. Quantum Computing” (para. 3)

These technologies have the capability to aid users in a dynamically agile environment, due to their flexibility and accessibility. For example, the increasing use of online distance education increasing in the recent times is leading to increasing reliance on fiber optic-internet and other modes of faster internet connection like 5G. According to Michael F. Dahlstrom (2014), Americans receive their primary source of information about science and technology from the “television (34%) and the Internet (35%), with magazines and other print media tied for a distant third and fourth (9%)”. When seeking information about a particular science or technology topic, “the Internet becomes the primary source chosen (59%), with over half (52%) of the online content being derived from traditional journalistic sources”.

1.4 Key Emerging Technologies and Their Impact

The rise of emerging technologies is a defining feature of the 21st century. Their impact is broad, deep, and accelerating, offering new opportunities for economic growth, societal progress, and individual empowerment. Emerging technologies can be further categorized by their nature and impact.

AI, or Artificial Intelligence is regarded as the study and design of intelligent agents that can perceive environments and perform actions to achieve specific goals. It underpins applications ranging from natural language processing and autonomous vehicles to predictive

analytics and robotics. Recent advances, such as deep learning and large language models, are “enabling entirely new solutions in healthcare, finance, and education” (Yee et al., 2025).

5G, the fifth generation of cellular network technology, represents a significant leap forward in wireless communication. This advanced network infrastructure offers unprecedented speeds, lower latency, and increased connectivity, enabling a wide range of applications across various industries. 5G supports the growing demand for high-bandwidth applications such as augmented reality, autonomous vehicles, and smart city infrastructure. Its low latency and high reliability make it ideal for critical applications like remote surgery and industrial automation. Additionally, 5G's ability to connect a massive number of devices simultaneously paves the way for the widespread adoption of Internet of Things (IoT) technologies, fostering innovation and improving efficiency in sectors ranging from manufacturing to agriculture. The expansion of 5G networks is “pivotal for enabling real-time, high-speed connectivity necessary for the Internet of Things (IoT), autonomous systems, and immersive experiences like augmented and virtual reality (AR/VR)”(Duggal, 2025) With projected global adoption, “5G serves as a backbone for smart cities, intelligent transportation systems, and remote healthcare” (Duggal, 2025).

Blockchain technology is a decentralized digital ledger system that securely records transactions across a network of computers. It operates on a distributed database, where each block in the chain contains a cryptographic hash of the previous block, a timestamp, and transaction data. This structure ensures transparency, immutability, and resistance to tampering, making blockchain particularly useful for applications requiring high security and trust. Originally developed as the underlying technology for cryptocurrencies like Bitcoin, blockchain has since found applications in various sectors, including finance, supply chain management, healthcare, and voting systems. Its ability to facilitate secure, transparent, and efficient

transactions without the need for intermediaries has the potential to revolutionize numerous industries and reshape how we conduct business and exchange value in the digital age.

Blockchain technology is “revolutionizing secure transactions, improving transparency, and enabling decentralized applications in industries like finance, supply chain, and governance. Its applications now extend to smart contracts, digital identity management, and even non-fungible tokens (NFTs)” (Duggal, 2025).

Quantum computing represents a revolutionary approach to information processing that harnesses the principles of quantum mechanics to perform complex calculations at unprecedented speeds. Unlike classical computers that use binary bits (0 or 1), quantum computers utilize quantum bits or qubits, which can exist in multiple states simultaneously due to superposition. This property, along with quantum entanglement, allows quantum computers to process vast amounts of data and solve certain problems exponentially faster than traditional computers. Potential applications of quantum computing span various fields, including cryptography, drug discovery, financial modeling, and optimization of complex systems. While still in its early stages, quantum computing holds the promise of transforming industries and tackling computational challenges that are currently intractable for classical computers. This represents another frontier in emerging technologies, with the potential to revolutionize fields such as cryptography, drug discovery, and complex system modeling. By harnessing the principles of quantum mechanics, these computers promise to solve problems that are currently intractable for classical computers. While still in its early stages, quantum computing could lead to breakthroughs in areas like climate modeling, financial risk analysis, and the development of new materials.

Biotechnology is a rapidly advancing field that combines biology with technology to develop innovative solutions for various industries, including healthcare, agriculture, and environmental conservation. This interdisciplinary science utilizes living organisms, cells, or biological systems to create or modify products and processes for specific purposes.

Biotechnology encompasses a wide range of applications, from genetic engineering and gene therapy to the production of biofuels and biodegradable materials. As researchers continue to unlock the potential of biotechnology, it holds promise for addressing global challenges such as food security, disease prevention, and sustainable resource management. The ongoing advancements in this field are not only revolutionizing scientific research but also transforming industries and improving the quality of life for people worldwide. Biotechnology, especially advancements in gene editing such as CRISPR, has made it possible to develop crops with higher yields and enhanced resistance, as well as targeted medicine designed for individual patients. “The merger of biotech and information technology is also driving innovations in personalized healthcare and diagnostics” (Prasser, 2025).

Nanotechnology is a cutting-edge field that operates at the nanoscale, manipulating matter at the atomic and molecular level. This interdisciplinary science encompasses physics, chemistry, biology, and engineering, enabling the creation of materials and devices with unique properties and functionalities. Nanotechnology has far-reaching applications across various sectors, including medicine, electronics, energy, and environmental remediation. By harnessing the novel characteristics of nanomaterials, researchers are developing targeted drug delivery systems, more efficient solar cells, stronger and lighter materials, and advanced water purification techniques. As nanotechnology continues to evolve, it promises to revolutionize industries, enhance technological capabilities. Nanotechnology allows the manipulation of matter

at atomic and molecular scales, leading to breakthroughs in medical diagnostics, drug delivery, and the creation of new materials with tailored properties. Nanomaterials are now “being used in packaging, electronics, and specialized coatings across industries” (Prasser, 2025).

AI-driven robots are revolutionizing various industries by combining artificial intelligence algorithms with advanced robotic systems. These intelligent machines can process vast amounts of data, learn from their experiences, and make autonomous decisions, enabling them to perform complex tasks with high precision and efficiency. AI-driven robots are being deployed in manufacturing to optimize production lines, in healthcare to assist with surgeries and patient care, in agriculture for crop monitoring and harvesting, and in logistics for warehouse management and last-mile delivery. As these robots become more sophisticated, they are increasingly capable of adapting to dynamic environments, collaborating with humans, and solving intricate problems. The integration of AI and robotics is not only enhancing productivity and safety in numerous sectors but also opening up new possibilities for innovation and scientific exploration. Robots, driven by advancements in AI and sensor technologies, are being deployed in manufacturing, healthcare (surgical robots), and logistics (autonomous delivery systems). These machines contribute to “increased productivity, precision, and safety in operations previously reliant on human labor” (Duggal, 2025).

Climate change has accelerated the adoption of green innovations, such as clean energy solutions, circular economies, and eco-friendly manufacturing techniques. Green innovation refers to the development and implementation of new technologies, products, and processes that contribute to environmental sustainability and reduce negative ecological impacts. This approach encompasses a wide range of initiatives, from renewable energy solutions and energy-efficient manufacturing techniques to sustainable agriculture practices and eco-friendly product designs.

Green innovation often involves rethinking traditional business models, incorporating circular economy principles, and leveraging cutting-edge technologies such as artificial intelligence and the Internet of Things to optimize resource use and minimize waste. By fostering creativity and environmental consciousness, green innovation plays a crucial role in addressing global challenges like climate change, resource depletion, and pollution, while simultaneously driving economic growth and creating new opportunities for businesses and communities. Tech-driven “sustainability is a crucial theme, with renewable energy systems and connected grids forming the foundation for future economic growth” (Prasser, 2025).

1.5 Interdisciplinary and Industrial Application of Emerging Technologies

Emerging technologies do not operate in isolation; their real power comes from interdisciplinary application. The current technology wave is increasingly blurring the boundaries between traditional disciplines, fostering interdisciplinary collaboration and innovation. Fields such as artificial intelligence, nanotechnology, and biotechnology are converging to create novel solutions for complex problems. This interdisciplinary approach allows researchers and practitioners to leverage diverse expertise, leading to breakthroughs that would be difficult to achieve within a single discipline. For instance, the combination of machine learning algorithms with genomic data analysis has accelerated drug discovery processes, demonstrating the power of integrating computer science with biology. The industrial application of emerging technologies is also actively transforming various sectors, from manufacturing to healthcare. Industry 4.0, characterized by smart factories and interconnected systems, exemplifies how technologies like the Internet of Things (IoT), big data analytics, and robotics are revolutionizing production processes. These advancements enhance efficiency, reduce costs,

and enable mass customization. In healthcare, the integration of 3D printing, biomaterials, and tissue engineering is paving the way for personalized medicine and regenerative therapies, potentially revolutionizing treatment approaches for numerous conditions.

Emerging technologies such as artificial intelligence (AI), biotechnology, nanotechnology, robotics, and the Internet of Things (IoT) inherently blend principles from computer science, engineering, biology, and other domains. This multidisciplinary fusion enables novel approaches to complex challenges:

Interdisciplinary research expands the potential impacts of emerging technologies, resulting in fields such as synthetic biology and cognitive computing, which would be impossible without cross-disciplinary integration. Industrial Applications of Emerging Technologies.

Technologies such as artificial intelligence (AI), the Internet of Things (IoT), robotics, and 3D printing are central to the advancement of Industry 4.0, fundamentally transforming manufacturing processes. Within smart factories, IoT-enabled sensors continuously monitor equipment in real time, enabling predictive maintenance that helps identify potential failures before they occur and significantly reduces unplanned downtime. Additive manufacturing, or 3D printing, further enhances operational efficiency by allowing for rapid prototyping and on-demand production of complex components, which minimizes waste and reduces the need for large inventories. Meanwhile, advanced robotics automate repetitive or hazardous tasks, thereby increasing productivity and improving workplace safety for human operators. Collectively, these Industry 4.0 technologies are driving a new era of efficient, flexible, and intelligent industrial systems.

In the healthcare and biotechnology sectors, emerging technologies are revolutionizing the way medical services are delivered and treatments are developed. Artificial intelligence (AI)

and machine learning enable the analysis of vast datasets, facilitating more accurate disease diagnosis, personalized treatment planning, and the acceleration of drug discovery processes. The integration of wearable technology and Internet of Things (IoT) devices further supports these advancements by allowing for continuous remote patient monitoring, which leads to more personalized and proactive care. Breakthroughs in genetic engineering, such as CRISPR, have made it possible to drive precision medicine forward, empowering clinicians to implement highly targeted therapeutic interventions that address individual patient needs and genetic profiles. Through these interconnected innovations, healthcare is becoming more data-driven, personalized, and effective.

In the energy and utilities sector, cutting-edge technologies are dramatically enhancing the efficiency and sustainability of power systems. Smart grids, powered by digital innovations such as artificial intelligence (AI) and the Internet of Things (IoT), enable real-time optimization of energy distribution, support predictive maintenance to prevent outages, and increase overall grid reliability. In parallel, blockchain technology is emerging as a tool for facilitating transparent and decentralized energy trading, allowing for secure, verifiable transactions between producers and consumers without the need for central intermediaries. Nanotechnology also plays a pivotal role by improving battery storage solutions and enabling the development of advanced renewable energy technologies, thereby supporting the transition toward cleaner and more resilient energy infrastructures.

In the field of agriculture, technological advancements are driving remarkable improvements in productivity and sustainability. Precision farming utilizes Internet of Things (IoT) sensors and drones to gather real-time data on crop conditions, which enables farmers to optimize resource usage such as water, fertilizers, and pesticides, ultimately enhancing yields

and reducing environmental impact. Moreover, artificial intelligence (AI) models are increasingly employed to predict weather patterns and detect the early onset of crop diseases, allowing for more accurate planning and proactive interventions that help minimize losses. By integrating these innovative tools, modern agriculture is becoming more data-driven, efficient, and resilient to both environmental and market challenges.

In the logistics and transportation sector, emerging technologies are streamlining operations and enhancing supply chain efficiency. Autonomous vehicles, powered by advancements in artificial intelligence (AI), are revolutionizing how goods are transported by enabling automated navigation, reducing human error, and supporting predictive maintenance to minimize downtime. Complementing these innovations, the Internet of Things (IoT) is used extensively to monitor fleet health and track shipments in real time, providing logistics managers with up-to-date information that facilitates optimal routing, timely deliveries, and resource allocation. Together, these technologies drive greater visibility, reliability, and responsiveness across the logistics landscape, helping organizations maintain a competitive edge in an increasingly dynamic global marketplace.

The synergy between interdisciplinary research and industrial applications is driving innovation at an unprecedented pace. As emerging technologies mature, they often find applications in unexpected areas, leading to the creation of entirely new industries. For example, blockchain technology, initially developed for cryptocurrency, is now being explored for supply chain management, voting systems, and digital identity verification. This cross-pollination of ideas and technologies not only stimulates economic growth but also addresses global challenges such as climate change, food security, and sustainable energy production. As the pace of

technological advancement accelerates, the ability to adapt and integrate diverse technologies will become increasingly crucial for businesses and societies to remain competitive and resilient.

1.6 Challenges in Adoption of Emerging Technologies

Emerging technologies hold significant promise for transforming economies, industries, and society at large. However, their adoption faces numerous challenges, particularly those stemming from knowledge gaps and difficulties in understanding complex concepts. These barriers can slow down diffusion, limit effective utilization, and increase risks associated with implementation.

A critical challenge in the process of adopting emerging technologies is the widespread existence of knowledge gaps across individual users, organizational decision-makers, and society as a whole. These gaps cover not only a general lack of awareness but also insufficient understanding of the specific capabilities, constraints, and potential far-reaching impacts of new technologies. Without the necessary foundational knowledge, it becomes challenging for stakeholders to evaluate how a new technology aligns with their goals, mitigates risk, or creates value within their context.

For many organizations, the absence of technical expertise presents a formidable hurdle. Unlike larger corporations with dedicated research and IT teams, SMEs often do not possess in-house experts who can effectively assess, select, and implement new digital tools. This limitation restricts their ability to integrate advanced technologies into daily operations or to innovate in ways that could boost competitiveness and efficiency. As a result, these organizations may fall behind in digital transformation efforts, lagging their more technologically adept peers.

Knowledge gaps are not restricted to professional domains. They are closely tied to broader digital divide issues that affect access to education, reliable internet connectivity, and professional training. Certain communities, often rural, under-resourced, or marginalized groups face systemic barriers to digital inclusion, making it harder to acquire up-to-date information about emerging technologies. This lack of access perpetuates existing disparities, limiting economic mobility and social participation for affected populations.

These digital divides not just hinder individual advancement but also reinforce unequal opportunities for communities or regions to benefit from transformative technologies like artificial intelligence (AI), blockchain, 5G, and beyond. As a consequence, the positive impacts of technological innovation, improved productivity, new business models, access to advanced healthcare or education often concentrate themselves in already advantaged areas, further widening social and economic gaps between different segments of society. Addressing these challenges thus becomes essential for achieving equitable and widespread gains from technological progress.

Bridging these knowledge gaps requires a multipronged approach involving education, targeted training programs, knowledge-sharing platforms, and proactive policy interventions. Governments, industry bodies, and educational institutions play a pivotal role in ensuring that information about emerging technologies is accessible, comprehensible, and tailored to various audiences. By equipping individuals and organizations at every level with the tools and understanding necessary to engage with and adopt new technologies, society can reduce disparities and help ensure that technological advancement yields shared and sustainable benefits for all.

Emerging technologies frequently involve complex scientific principles, advanced mathematics, or intricate software processes, which can be “difficult for practitioners without specialized backgrounds to comprehend” (Yee et al., 2025)). For example, AI and machine learning utilize algorithms that may appear as "black boxes" to non-experts, reducing trust in their outputs and limiting use in critical decisions.

The rapid pace of technological advancement also means that educational curricula and professional development programs often lag behind, “leaving a workforce unprepared to grasp and apply new concepts effectively” (Yee et al., 2025). The difficulty of translating sophisticated technical knowledge into practical understanding for business leaders and frontline users inhibits wider deployment.

1.7 Consequences of Knowledge Gaps and Conceptual Challenges

Knowledge gaps and conceptual challenges surrounding emerging technologies have several significant consequences. Organizations often exhibit slower adoption rates, as inadequate understanding fosters hesitation to invest due to perceived risks and uncertainties. Even when organizations proceed with adoption, a lack of deep comprehension can result in suboptimal implementation, where improper or inefficient use of new technologies diminishes expected benefits. Furthermore, misunderstandings of fundamental concepts, especially in complex fields like the Internet of Things (IoT) and blockchain, increase the likelihood of security vulnerabilities, leaving systems open to cyber threats (Duggal, 2025). Finally, poor grasp of technology implications can inhibit the ethical and socially responsible deployment of innovations, which is particularly concerning in sensitive areas such as genetic engineering and artificial intelligence (AI) decision-making (Yee et al., 2025). These intertwined issues highlight

the urgent need for enhanced education and capacity-building to ensure that technological advancements are leveraged safely and effectively.

1.8 Technology and Creativity

Teaching technical concepts often involves overcoming barriers of complexity, abstraction, and student disengagement. Traditional lecture-based methods may fail to capture students' interest or foster deep understanding, especially in fields like engineering, science, or computer technology. The impact and prevalence of emerging technologies in our day to day lives has made it even more important to utilize the power of creative communication and storytelling to transmit scientific and technical knowledge; which are centered around the act of storytelling. However, no amount of traditional education and knowledge transmission is going to help individuals unless they understand the concept behind emerging technologies and feel comfortable using it without any apprehension. Presenting complex technical and scientific articles might work for one type of audience, but it has the potential to create an air of perplexity for the rest. This study bases the crux of its argument on the notion of technology as an interplay between different individual, cultural and economic forces, and not an isolated occurrence operating in vacuum.

There are several multi-pronged strategies that can be explored to address the challenges posed by knowledge gaps and the complexity of emerging technologies. Enhancing education and training is crucial, which involves “updating curricula to incorporate practical, interdisciplinary approaches and providing continuous learning opportunities centered on emerging technologies” (Yee et al., 2025). Additionally, promoting knowledge sharing through the establishment of “industry consortia, open forums, and collaborative platforms can facilitate

the exchange of best practices and help reduce information silos” (Prasser, 2025). Simplifying communication by creating accessible resources and user-friendly interfaces is also essential to demystify complex technology concepts for a broad range of stakeholders, including policymakers and end-users. Finally, fostering ethical literacy by “embedding education on ethics and societal impacts within technical training programs prepares the workforce for responsible innovation” (Prasser, 2025).

Active learning emphasizes student participation through discussion, hands-on activities, and problem-solving, making abstract technical concepts more accessible. Project-based learning, where students work on real-world challenges, fosters deeper understanding by requiring application of theory to practical problems. For example, engineering students might design a prototype or code a software project, which “not only reinforces theoretical learning but also develops critical thinking and communication skills” (Dyshkant, 2024).

Visual aids such as diagrams, animations, infographics, and videos transform complex information into accessible, memorable experiences. The use of interactive panels and 3D modeling tools allows students to visualize structures like molecules or circuits. Virtual reality (VR) provides immersive simulations, for example, letting learners conduct virtual experiments or “explore scientific phenomena that are otherwise intangible or dangerous to access in reality” (Arun. 2025).

Creative forms of communication, like storytelling and analogies, bridge the gap between abstract technical concepts and students’ everyday experiences. Cartoons and visual metaphors can “simplify advanced topics while making the learning process enjoyable and engaging” (Evans, 2017). For example, personifying computer processes as cartoon characters can help students relate to abstract algorithms or data flows.

In the flipped classroom model, students study new material independently at home (through videos, readings, or tutorials) and use classroom time for discussions, collaborative problem solving, and experiential activities. This model “supports personalized learning and maximizes face-to-face mentoring during class” (Arun, 2025).

Peer teaching, in which students explain concepts to one another, is highly effective for reinforcing their own learning and revealing misunderstandings. Teaching others requires deep “engagement with the material, often exposing knowledge gaps and prompting self-correction” (Adams, 2024).

These approaches engage students in active experimentation, questioning, and creative problem-solving. Inquiry-based learning encourages students to investigate questions, conduct experiments, and develop conclusions, mirroring the scientific method. Design thinking places students in the role of innovators, guiding them through stages of empathizing, ideating, prototyping, and testing solutions to complex problems by integrating “technical concepts with creativity and empathy” (Dyshkant, 2025).

Gamifying technical education by using quizzes, competitions, or game-based platforms introduces elements of accomplishment, challenge, and reward, increasing motivation to master complex material. Simulations, coding challenges, and role-playing scenarios allow students to “experience real-life technical decision-making without real-world risks” (Dyshkant, 2025).

Recognizing that students absorb information in different ways, VAK (Visual, Auditory, Kinesthetic) teaching strategies combine visuals, spoken explanations, and hands-on activities. “Spaced learning, chunking, and repeat revisiting help cement complex concepts in long-term memory” (Zijlstra, 2023).

Presenting technical ideas through real-life examples and case studies contextualizes theory, making it more relevant and comprehensible. This method “improves retention and demonstrates the direct applicability of technical skills in current industry or societal challenges” (Jain, 2023).

1.9 Role of Storytelling in Demystifying Technology

To realize this, it is important understand the definition of the two different genres of technical writing and storytelling; one which is exclusive to an audience already possessing a certain degree of knowledge, and the other containing the potential to reach a wider and more diverse audience.

Technical knowledge, according to Poe et al.(2010), “emerges from a nexus of interacting people, agencies, materials, instruments, individual and collective goals and interests, and the histories of all these factors” (p. 4). Writers belonging to the field of science and technology place themselves within the larger conversation of the field, thus determining a code of transmitting knowledge. For example, they define the structure of scientific and technical discourse that’s supposed to follow a set pattern or inference and deduction. There is a preset code under which they operate, with a common goal in mind, influenced by their peers and discourses preceding them, shaping their perception of the genre of technical writing. Technical writing isn’t born or developed in isolation but a product of the internal as well as external influences on a discipline.

Storytelling, according to Dahlstrom (2014), often has a “bad reputation within science. Viewed as baseless or even manipulative, stories are often denigrated” (para. 1). This form of narrative was initially conceptualized to transmit knowledge in the form of myths and folklore.

According to Tripti Dhote and Vishal Kumar (2019), “The primary theory of storytelling says that we have a story-based recollection in our memory. For that reason, whatever statistics, reality or knowledge is stacked by us is banked, evoked and retrieved in the way of meaningful stories whenever needed” (para. 27). It’s due to the ability of stories and analogies to reach out to the pre-existing patterns in our memory, that they have a greater impact on the readers, and a potential of better retention. Appendix A presents an example of a web comic taken from my website cloud-demystified.com, which uses the analogy of a crowded bus stop to explain cloud load balancers. Readers, who have experience with crowded bus stops can start associating the various symbols used in the story to the technical concepts and create a narrative in their mind to understand those concepts.

Since storytelling has been associated with myths and folklore, it’s not welcomed with open arms in the field of science. The genre of storytelling is seen as a threat to reason and facts, encompassing more imaginary and fictional elements compared to technical writing. For example, Gould (2002) establishes the purview of science as “the natural world, whereas religion handled theology, morals, and ethics” (para. 5). These boundaries, however are rendered open to revision in contemporary genre studies, that view any writing as a dialogue between the writer and the field, negotiating different patterns of knowledge sharing.

1.10 Research Problem

With the rise in emerging technologies penetrating into the day to day lives of individuals belonging to different backgrounds and ages, it is important to understand how creative teaching approaches, especially storytelling can be used to make technical concepts more relatable and accessible. While they promise increased engagement and deeper understanding, moving beyond

rote memorization and abstraction, the effective use of such methods poses significant research problems concerning accuracy, inclusivity, assessment, and pedagogical rigor. This study outlines the core research problem in using creative methods and storytelling to demystify technical concepts and identifies critical questions for future investigation. My aim is to understand how can creative methods and storytelling be systematically designed, implemented, and evaluated to make technical concepts accessible without sacrificing fidelity, inclusivity, or critical rigor. Underlying this problem are several interrelated challenges, which create a complex research landscape for scholars and educators.

Creative narratives or metaphors may inadvertently sacrifice technical accuracy for engagement, potentially fostering misconceptions or incomplete understanding, especially in high-stakes fields like healthcare or engineering. In addition, quantitatively assessing whether individuals truly grasp the correct technical idea rather than simply recalling a memorable story needs to be understood as we're evaluating the efficacy of this method.

Stories and analogies often reflect dominant cultural perspectives, risking exclusion or misrepresentation of minority groups. This makes determining which kinds of stories or creative techniques resonate across diverse individual backgrounds is a persistent challenge.

Given these complexities and considerations, it is of paramount importance to conduct a mix of quantitative and qualitative study, and dialogues using samples with individuals of different backgrounds, ages and familiarity with technology in their day to day lives. This study provides a comprehensive analysis of the understanding and comprehension derived by different individuals on reading comics and videos using storytelling and analogies to explain technical concepts and fundamentals. The sampling done based on the ages, learning preference, comfort with technology and access to a stable internet connection to encapsulate diversity of responses.

1.11 Purpose of Research

The purpose of this research is to conduct a blend of quantitative and qualitative assessment in understanding the efficacy, drawbacks and considerations of using the genre of storytelling and other creative medium in explaining emerging technology to individuals belonging to diverse backgrounds and ages. Traditional teaching methods, technical writing and whitepapers have been used to explain emerging technologies, which is still getting used in offline and online modes of enablement. However, these approaches suffer from the rigidity of the pre-defined genre boundaries, concerns around accessibility of information, loss of information due to high use of technical jargon, spiraling the narrative into vortex of technology, especially for individuals who may not be well versed or well exposed to emerging technologies. This often paves the way to exclude a large amount of our population from gaining access to knowledge around these emerging technologies, which not only has the potential to help them in their day to day lives, but also push boundaries and utilize them in areas outside the technical world.

This study aims to analyze and compare the efficacy of storytelling, videos using simple analogies to explain concepts like cloud computing, cloud security, load balancing, artificial intelligence and fundamentals from the world of technology. Furthermore, this research will overlay the responses received by different individuals from different backgrounds on the same examples presented to validate how the information is being perceived, analyzed and retrieved. By adopting a data driven and qualitative approach, this study intends to provide insights into the benefits, limitations, ethical considerations, practical implications of using storytelling and analogies in demystifying concepts related to emerging technologies.

Additionally, the research seeks to identify challenges and opportunities associated with using storytelling and creative methods to demystify complex technical concepts. Considerations such as oversimplification of terms, creative liberty, diverse interpretations and resistance by technical professionals will be explored to understand the impact, challenges and potential opportunities. Through a blend of quantitative and qualitative research methodology, the study will collect survey data from people belonging to different backgrounds and age group, followed by a statistical sampling of 5 respondents for an interview in understanding responses to 7 stories to demystify technology.

Ultimately, this research will strive to provide actionable recommendations for educators, learners and professional organizations, enabling them to leverage the power of creativity and storytelling in understanding, explaining and applying the power of emerging technologies while keeping in mind the ethical considerations. Emerging technology needs to be made accessible to different backgrounds and ages, without falling into the trap of confinement in a traditional structure.

1.12 Significance of the Study

This study provides insight into both the academic discourses and practical application around using creative methods to make knowledge around emerging technology accessible to individuals belonging to different backgrounds, socio-economic conditions and age groups. Technology doesn't operate in vacuum, and is now a part of our day to day existence. Diminishing the spread of knowledge by confining the knowledge transmission to traditional methods of teaching and technical writing can hamper the adoption of these technologies and the social good they can permeate.

From an academic perspective, this study aims at studying the discourse around the fluidity of genre, use of emerging technologies outside the realm of technology (eg, manufacturing, arts, weaving) offering a comprehensive analysis of the interplay of genre in defining transmission of technical knowledge. Technology is no longer confined to technical professionals, but has permeated into each individual's life, offering the potential to improve standard of living, automating operations and gaining insights not available traditionally.

For educators and academicians, this study will dive into the efficacy of storytelling, analogies and other creative methods to demystify technology, which taking into consideration the background of the learners and their comfort with technology. As technology is evolving in this ever-changing landscape, it is paramount for our teaching, writing and knowledge transmission methods to evolve accordingly. This study provides insights that can inform teaching, writing and enablement decisions to bump of adoption and creative uses of emerging technologies. By identifying the challenges, best practices and ethical considerations of using creative storytelling, the research supports the development and subsequent use of creative means to demystify technology.

1.13 Research Purpose and Questions

The purpose of this study is to perform quantitative and qualitative (case study) research on using storytelling and analogies in the form of web comics and videos to demystify concepts related to emerging technology. It aims to take into consideration the socio-economic background, familiarity with technology, preferred mode of learning and understanding derived from the samples to evaluate the efficacy, considerations and opportunities of using this method.

While creative methods and storytelling offer transformative possibilities for technical education, their efficacy and ethics must be underpinned by rigorous research. The design, implementation, and assessment of such approaches demand multidisciplinary inquiry, spanning pedagogy, psychology, cultural studies, and ethics. Addressing the outlined research problem is vital for realizing the full promise of creative teaching while safeguarding equity, accuracy, and lasting understanding.

- Research Question

1. What is the efficacy of using storytelling and analogies using comics and videos to explain complex technical concepts to individuals belonging to different backgrounds, ages and exposure to technology?

2. Are our educators and learners ready to transcend genre boundaries to explain emerging technologies in creative formats?

3. What ethical and cultural considerations do we need to take into account while using the method of storytelling while explaining technical concepts to different individuals?

CHAPTER II:

REVIEW OF LITERATURE

2.1 Introduction

Technical writing, according to researchers belonging to contemporary genre studies, is a process influenced by academic, cultural and individual responses. There is, as explained by Charles Bazerman (2002), an “interplay between the existing social worlds writers recognize and orient toward, and the individualized presences and contributions each writer makes through participation in the shared discursive space of the genres” (p. 17). There are elements of cultural as well as peer influences that govern the kind of practices followed by the writers belonging to the genre of technical writing. It has widely been held that technical communication genres share similar features across cultural contexts. Ann Penrose and Steven B Katz (2010) mention how science papers “must be written in a way that makes the science accessible, testable, and acceptable to journal editors and colleagues within the field” (p. 12).

While the rhetorical purpose of technical project reports, for example, might be similar across contexts, other generic features may differ. Thus, operating within different cultural and academic influences, writers from the field of science and technology find themselves negotiating differing expectations—e.g., design and citation patterns--with the genre of the technical project report. As a result, they develop their writing and understanding based on their cross-cultural antecedent knowledge, while engaging in a discourse with their peers and academic requirements to shape their understanding of genre and writing. The discipline of technology and culture guide writers, where they operate their situated cognition. It’s borne out of a response to cultural conditions. To understand culture, I would like to borrow Miller’s definition (1996) of culture as a “particular way of life' of a time and place, in all its complexity,

experienced by a group that understands itself as an identifiable group” (p. 68). Cultural belonging, like genre, isn’t a fixed notion, and changes for individuals as they try identifying themselves with different groups. For example, Penrose and Katz (2010) discuss peer review as a mechanism of “gatekeeping” to “ensure quality control by deciding what is acceptable to publish in the field” in science writing (p. 11).

2.2 The Structure of Storytelling

Storytelling or using analogies as a mode of narration has the potential to speak to the experiences of the audience and help them situate themselves within the larger discourse of understanding a particular concept. This genre, according to Leslie Larson (2019), creates “a unique and personal bond between the storyteller and the audience; it offers us a sense of community, a feeling like we belong to something greater than ourselves” (para. 2). If content creators can “capitalize on this innate need for community, intimacy, and storytelling and understand how to persuade consumers...they’ll soon find that their target audiences are more engaged and receptive to their content” (para. 3). This helps the narrators create strategies around the timing of creation, ease of transmission, and audience expectations. Similarly, the use of analogies, according to Claudia Schwarz-Plaschg (2018) follows a cognitive process in which “knowledge from one domain, the source, is mapped onto a target” (para. 1). This was used in an evolutionary perspective to help humans survive and comply by the codes defined by their tribe or culture. For example, analogies of tigers eating humans were inscribed into the minds of children belonging to a certain tribe, to warn them against venturing out alone in an unprotected forest. According to Plaschg (2018), “the main goal of analogical imagination lies not in gaining particular results but in the process itself because it stimulates imagination beyond the isolated

case and helps to develop a contextual understanding” (para. 6). The reason why storytelling has proved to be such an important tool of transmitting knowledge is its ability to help listeners relate to the occurrences and fit them within the narratives defined by their experiences. Gotter (2017) observes that statistics and science present facts, but “stories can convey messages in a precise and emotionally powerful manner. They are unforgettable and give viewers something relatable”. (para. 26). Since storytelling and analogies have often been tied down to oral narratives and narration of myths, they’re not well received in scientific discourse. However, like the genre of technical writing, even the genre of storytelling is defined by cultural and socio-political forces, in addition to the people who belong to the group carving out the structure of this genre.

2.3 Interplay and Negotiation Between Genres

Kavian Padian, in his research outlines the use of storytelling in the genre of technical and scientific writing, which isn’t apparent, but an intrinsic part of the scientific writing process (Padian, 2018). Penrose and Katz (2010) also echo this in their research, explaining how “the use of visual technology in scientific research and communication is by no means ornamental or cursory... visual technologies are deeply embedded in the sciences” (p. 12). Wellington and Osborne explain how verbal and written words are important in science, but communication happens at various levels including diagrams, animations, graphs, images etc. where certain words may not have the same significance as they do in other disciplines. The discipline of technical writing encompasses elements of storytelling, images and in today’s world; the use of videos and visuals. Since this genre is adapting to the evolving world, it is important to question the rigidity around genre boundaries and render them open to revision.

Kevin Padian (2018) outlines the use of “quest” in storytelling, where the protagonist embarks upon a journey to reach a goal defined by the narrative. Similarly, in science “conclusions follow the data”, where the writer embarks upon a scientific and/or technical quest with a goal in mind (para. 17). Drawing a comparison between a typical scientific or technical article and the structure of narrative in folklore defined by Propp and Landau, he outlines similarities in the organization, which starts with a problem statement or quest and ends with a resolution of the problem.

“Format of a typical scientific article:

- Abstract
- Introduction
- Materials and Methods
- Results
- Discussion
- Conclusions
- Acknowledgments
- Literature Cited

Structure of narrative in the folk-tale:

Hero met → problem introduced → “quest” required →
first test (fail) → “gift” → transformation →
test again → triumph → problem resolved!” (Table 1)

He mentions the need for “scientists to un-learn what [they]’ve been told is good science in presenting research and grant proposals, and develop instead a good story about science” (para. 7). This echoes Jerry Wellington and Jonathan Osborne’s claim (2001) that “there is far

more to science communication than the spoken and written word” (p. 67). There’s a constant negotiation between the incidents and the responses evoked by the writers, that is defined by the cultural influences driving the reader’s pre-existing library of cognition.

2.4 Genre and Culture

Caloryn Miller (1996) defines genre as “a mid-level structurational nexus between mind and society” (p. 71). Students must, according to Bazerman (2002), “draw on their reading, their empirical experience, and their interactions with their peers so as to use the existing symbol system to point to phenomena previously uncontained by symbols but reliably reproducible, recognizable, and persuasive to peers” (p. 318). Culture stems from a need to belong and establish an identity with respect to the society. It is useful to look at genres as cultural artifacts, which are open to revision, various interpretations and shaped by individual and cultural interactions. This is what analyzing genre studies with an open mind enables us to do, which, in Natasha Artemeva and Janna Fox’s opinion (2010), “helps consider them as typified symbolic actions in response to stock sets of situation types” (p. 481). Anis S. Bawarshi and Mary Jo Reiff (2010) define genre as “complex social actions and cultural objects” (p. 78). They quote Berkenkotter and Huckin to explain how genres are “inherently dynamic rhetorical structures that can be manipulated according to the conditions of use...and best conceptualized as a form of situated cognition embedded in disciplinary activities” (p. 83).

Genre acts as an intersection between the private and the public for an individual who tries belonging to a larger social structure, which is constantly in flux. Language, patterns of expression, signs and symbols all function within the discourse of establishing one’s individuality within the society. It is a fluid residue of cultural interactions and not a fixed entity,

immune social and cultural influences. Angela Rounsaville (2014) mentions how “genres construct and respond to situation . . . and provide writers with means to recognize, frame, and organize their everyday rhetorical encounters” (p. 335), which makes genre dependent upon each individual’s personal experience to situations.

She further elaborates how “rhetorical situations and genres are understood as sites of constraint and creativity, structure and agency, rigidity and flexibility wherein writers often find themselves wrestling to bring personal intention into a social forum” (p. 336). In other words, genre is formed at the intersection of a writer's response to individual and cultural experiences within a community of practice to which they belong. According to Bazerman (2002), “In recognizing and using genre, we are mobilizing multidimensional clusters of our understanding of the situation, our goals, and our activity” (p. 320). There’s an element of perception, antecedent knowledge and adaptation when we create genre in our mind.

“Understanding the genre one is working in is understanding decorum in the most fundamental sense-what stance and attitude is appropriate given the world one is engaged in at that moment” (p. 320). It is important to situate the individual’s engagement with the society, operate within the nexus of various social forces to understand the conception of genre. Schryer (2002) further elaborates on this by mentioning that “temporality is always present in social contexts. Agents bring with them memories of past experiences and/or they use already existing structures...to guide them in their interactions with other social agents” (p. 37). That doesn’t mean cultures are mutually exclusive categories, but a site of resistance and acceptance. Genre also behaves in a similar manner in the minds of individuals, where they accumulate signs and perception gained from the culture to which they belong, and want to belong to. Artemeva and Fox (2010) mention genre as “texts that are rhetorically constructed to meet the expectations of

the disciplinary community insiders” (p. 483), where the sense of community and expectations of the “insiders” of that community is prevalent in shaping the definition of a genre. According to Bazerman (2002), going to a place is only the first step, for once you are there you need access and encouragement to engage with particular people in particular roles, use particular resources, and take part in particular experiences and activities. When you start writing in those genres, you begin thinking in actively productive ways that result in the utterances that belong in that form of life and you take on all the feelings, hopes, uncertainties and anxieties about becoming a visible presence in that world and participating in the available activities.

The idea of genre as a developing cultural artifact renders it open to revision and investigation. There’s an element of social interaction and awareness of potential readers, making genre a dialogue the individual has with his/her cultural surroundings and the larger disciplinary sphere. According to Gross (2006), “although the general progress of scientific knowledge relies heavily on the relative subordination of individual efforts to communal goals, the career progress of scientists depends solely on recognition of their individual efforts at discovery (p. 165). The individuals place themselves within the larger community of practice, establishing their identity in that culture and gaining recognition for their work. The individual and the society, are both important in shaping the genre of technical writing.

2.4 Storytelling for Knowledge Transmission

According to Dahlstorm (2014), a lot of technical concepts are “outside of direct experience” and “people are dependent on others to inform and help them interpret information about science” (para. 15). Not every person has the background or resources to get direct exposure to emerging technologies, which increases their reliance on other forms of writing and

narration to understand technical concepts. There are many sources that help with this transmission of knowledge, but “none trump the ubiquity or frequency of the mass media” (para. 15). As mentioned earlier, people have demonstrated an increasing reliance on mass media, social media and other forms of online exposure to gain information about science and technology. This has made it even more important to use narrative forms used in mass media, like storytelling and analogies to transmit technical knowledge. Analogies, explained by Plaschg (2018), “are central devices for understanding and assessing emerging technologies in dialogue settings” (para. 3).

Emerging technologies may not be easily accessible to people from different backgrounds, which creates an air of skepticism and confusion during these evolving times. Plaschg (2018) further elaborates analogies “represent essential tools in science education to convey abstract scientific concepts”, and “analogical processes deserve and are also getting close attention in fields analyzing the production, communication, and societal negotiation of technoscientific knowledge” (para. 2). Technology would no longer be viewed as an isolated occurrence, but a part of the readers day to day reality.

2.5 Ethical Considerations of Using Creative Methods and Storytelling

The rise of creative teaching methods, especially storytelling has transformed technical education, making complex ideas more accessible and engaging. However, as with all pedagogical innovations, these methods raise ethical considerations related to truthfulness, respect, power, representation, and inclusivity.

Storytelling, when employed responsibly in educational settings, has the potential to nurture empathy, stimulate critical thinking, and facilitate a more profound understanding of

technical subjects. It is most effective when it is guided by foundational ethical values, notably respect for the diverse experiences, backgrounds, and cultures reflected within the narratives. Truthfulness is equally vital, as it ensures that technical content is accurately conveyed without succumbing to oversimplification or distortion. By prioritizing respect and truthfulness, “educators can create teaching environments where learners connect with the material and each other in meaningful ways” (Gonzalez et al., 2025).

Empathy, accountability, and transparency are equally important in the selection, adaptation, and use of stories and narrative content. Empathy serves as a bridge, enabling inclusive classroom dialogue and making complex material more relatable. Accountability and transparency guarantee that the storytelling process is open, responsible, and considers the ethical implications of the narratives shared. These core values collectively create a pedagogical approach that respects the integrity of both the subject matter and the individuals involved, “ultimately enriching the teaching and learning of technical concepts” (Gonzalez et al., 2025). Creative pedagogies, ranging from arts-based activities to immersive simulations demand similar care, ensuring that “entertainment and engagement do not overshadow integrity or inclusivity”.

2.6 Potential Ethical Risks

Adapting technical concepts into stories or creative exercises risks misrepresenting essential information, leading to misunderstandings or perpetuating inaccuracies. This distortion may “hinder student learning or contribute to misconceptions with real-world consequences, especially in fields like engineering or healthcare” (Nickerson, 2019).

When using real-life case studies, personal narratives, or characters, “issues of consent and ownership arise” (Maretoja, 2017). Educators must ensure explicit consent from individuals

whose stories are shared, protection of anonymity and confidentiality where appropriate and avoidance of exploitative or extractive practices that privilege some voices over others. Attention must also be paid to power imbalances: educators should refrain from using their “authority to impose interpretations that marginalize or stereotype individuals or groups” (Alterio et al., 2003).

Storytelling frameworks risk amplifying dominant perspectives while silencing underrepresented or minority voices. Ethical teaching requires diverse representation in the selection of stories and creative content, sensitivity to “cultural, social, or emotional triggers that may arise and promotion of an inclusive environment where all students feel seen and heard” (Persaud, 2022).

Storytelling can evoke powerful emotions, particularly when drawing on personal or community histories. The ethical approach prioritizes “psychological safety of both tellers and listeners and context-specific adjustments to minimize harm and support positive learning” (Persaud, 2022). Subsequently, “ongoing consultation with students, colleagues, and community members is essential to ensure appropriateness and relevance of materials” (Persaud, 2022).

Ethical creative teaching obliges educators to present accurate, well-sourced representations of technical concepts, explicitly disclose fictionalization or dramatization in narratives and encourage critical thinking, questioning, and verification among students, countering misinformation and “single story” narratives (Adiche, 2009).

The integration of storytelling particularly when students co-create or examine narratives can cultivate ethical awareness and responsibility, provided the process is “transparent, participatory, and reflexive” (Martin, 2024). Reflective and dialogical approaches allow students to address real ethical dilemmas encountered in technical fields and examine the interplay of fact, interpretation, and values.

While creative methods and storytelling enhance technical education, their use carries significant ethical responsibilities. Upholding respect, truthfulness, diversity, and consent ensures that these approaches enlighten without exploiting, distortions, or marginalization. Continuous dialogue and ethical vigilance make creative pedagogy a force for inclusive, transformative learning.

2.7 Gaps in Literature: Creative Methods and Storytelling in Explaining Technology

Despite growing advocacy for creative teaching strategies and storytelling to demystify technical concepts, substantial gaps remain in the academic literature. One of the most significant issues is the lack of “empirical evidence; there are relatively few rigorous, controlled studies” (Bombaerts et al., 2021) that systematically evaluate whether creative methods, including storytelling, “genuinely improve comprehension and retention of technical concepts across diverse student populations” (Gonzalez et al., 2025). There is also a deficit of validated, multidimensional assessment instruments and tools that can measure not only cognitive outcomes but also affective and critical-thinking skills “resulting from the use of creative or narrative-based teaching interventions” (Bombaerts et al., 2021).

Another notable gap concerns the transferability of creative methods across disciplines. Minimal research examines whether techniques found effective in one technical area, such as engineering, can be reliably “adapted to others like computer science or biotechnology” (Martin, 2024). This is compounded by the absence of comprehensive, actionable frameworks for ensuring inclusivity and diverse representation within stories and analogies used in instruction, raising the risk of cultural bias and inequity if underrepresented groups “perspectives are not meaningfully included” (Gonzalez et al., 2025).

Ethical considerations present further challenges, as the literature rarely provides robust guidance on the ethical sourcing, adaptation, and delivery of narratives in technical contexts. Key issues include “obtaining consent, navigating power dynamics, and maintaining emotional safety when using real-life or fictional stories in the classroom” (Gonzalez et al., 2025). Moreover, evidence regarding the long-term impact and actual transfer of learning from creative storytelling interventions is limited, particularly whether they lead to “sustained conceptual understanding and enhanced problem-solving skills, compared to traditional teaching methods” (Martin, 2024).

Finally, there is a lack of focused research on teacher preparedness and student roles in the creative learning process. Few studies investigate the professional development and support needs of educators tasked with “implementing creative pedagogies in technical subjects” (Bombaerts et al., 2021). Similarly, the potential effects of positioning students as co-creators or storytellers both in terms of their engagement and the ethical considerations involved “remain underexplored” (Bombaerts et al., 2021). Together, these gaps underscore the urgent need for multidisciplinary, methodologically sound research to inform evidence-based, ethical, and inclusive practices in the use of creative instructional methods for technical education.

CHAPTER III: METHODOLOGY

3.1 Overview of Research Problem

This research problem centers on evaluating the effectiveness and key considerations of employing creative methods, such as storytelling, to explain complex technical concepts. It also examines the ethical concerns and resistance that arise from traditional perceptions and boundaries surrounding educational genres. Typically, technical knowledge is delivered through whitepapers, technical writing, and conventional teaching techniques, which can often be inaccessible or intimidating to individuals who lack extensive exposure to technology.

Groups such as homemakers, senior citizens, and learners from non-technical fields not only stand to benefit from emerging technologies but also play a crucial role in their adoption and dissemination. However, these individuals risk being excluded unless the information is tailored to their unique learning styles, preferences, and familiar contexts. Without relatable explanations, the broader population may remain disconnected from important technological advancements.

This study explores the experiences of participants who were introduced to emerging technology concepts through analogies presented in comics and videos. By focusing on these creative, narrative-driven formats, the research investigates their potential to make complex topics more understandable, addresses any concerns raised by unconventional teaching approaches, and evaluates how such methods might help demystify emerging technologies for diverse audiences.

3.2 Research Purpose and Questions

Purpose

The purpose of this study is to conduct both quantitative and qualitative research on the use of storytelling and analogies, specifically delivered through web comics and videos, to demystify concepts related to emerging technology. By examining these creative formats, the study explores how they can effectively communicate complex technical ideas in an accessible and engaging manner. This approach aims to break down barriers that traditional technical communication methods often present, making emerging technology more understandable to a wider audience.

A central focus of the research is to consider the diverse socio-economic backgrounds of participants, as well as their varying levels of familiarity with technology. Understanding how these factors influence individuals' preferred modes of learning and comprehension is key to assessing the suitability and effectiveness of storytelling-based education. By analyzing these elements in the sample population, the study seeks to identify patterns that could inform more inclusive and adaptive teaching methodologies.

Creative methods like storytelling hold transformative potential for technical education by making abstract or complicated concepts relatable and easier to grasp. However, evaluating their true efficacy requires careful examination of how these approaches impact learners' understanding and retention of knowledge. It is equally important to consider the ethical implications involved, particularly in ensuring that information remains accurate and accessible without oversimplification or misrepresentation.

The successful integration of storytelling and analogy-driven content into technical education requires a multidisciplinary approach. This involves insights from pedagogy to design

appropriate learning experiences, psychology to understand cognitive engagement and comprehension, cultural studies to respect and incorporate diverse backgrounds, and ethics to maintain trustworthiness and inclusivity. Such a comprehensive framework ensures that creative educational methods meet high standards and serve diverse learner needs effectively.

Overall, addressing these research concerns is essential to unlocking the full potential of creative teaching in emerging technologies. By grounding storytelling methods in rigorous research and ethical considerations, educators and communicators can foster greater equity, accuracy, and lasting understanding. This positions storytelling not just as an entertaining tool, but as a powerful means to democratize knowledge and empower a broader audience in a rapidly evolving technological landscape.

Questions:

To achieve this, the study is guided by the following key research questions

1. What is the efficacy of using storytelling and analogies using comics and videos to explain complex technical concepts to individuals belonging to different backgrounds, ages and exposure to technology?
2. Are our educators and learners ready to transcend genre boundaries to explain emerging technologies in creative formats?
3. What ethical and cultural considerations do we need to take into account while using the method of storytelling while explaining technical concepts to different individuals?

3.3 Research Design

This study utilizes both quantitative and qualitative methodologies to assess the effectiveness, considerations, and participant responses to using comics and videos as analogy-based tools for explaining complex technical concepts. By combining survey data with in-depth interviews, the research aims to explore how creative, storytelling-driven formats can make emerging technologies more accessible and comprehensible to diverse audiences. This mixed-method approach provides a comprehensive understanding of not only what learning modes are preferred, but also why certain formats resonate better depending on individual backgrounds and experiences.

A total of 207 participants took part in a global survey designed and distributed through SurveyMonkey, with outreach spanning social media channels such as LinkedIn, Facebook, WhatsApp, and Instagram. Respondents hailed from India, Australia, and the United States and represented a wide demographic spectrum, aged between 12 and 89 years old. All participants reported stable internet access, and their levels of familiarity with emerging technologies varied considerably. The survey collected detailed information about participants' occupational backgrounds, exposure to new technologies, internet access reliability, and their preferred methods for learning about technological advancements. The full set of survey questions is documented in Appendix A.

Following the survey, five participants were purposively selected to engage in semi-structured interviews conducted through video conferencing platforms including Zoom, WhatsApp Video, and FaceTime. These individuals were chosen to represent a diverse cross-section of professions, an IT professional, homemaker, retired professional, medical professional, and student allowing for insights across different degrees of technical exposure and

learning preferences. The interviews focused on participants' personal experiences with emerging technologies, evaluation of internet accessibility, and, importantly, their reactions to educational analogies designed to simplify cloud computing.

During the interviews, each participant was presented with eight analogies that attempted to demystify cloud computing by using web comics and video storytelling formats sourced from the Cloud Demystified website. These narrative-driven analogies served as practical examples for understanding fundamental cloud concepts in an engaging and visually rich manner. By analyzing participants' preferences and feedback on these analogies, the study aimed to shed light on how creative storytelling could enhance comprehension of technical material and appeal to audiences with varying degrees of technological familiarity.

3.4 Methodology

This study employs quantitative research followed by the case study methodology to understand the various ways in which people from different backgrounds prefer learning about emerging technologies. Case study research investigates a “bounded system” such as an individual, group, event, or institution to gain a holistic understanding of a complex issue or process. Unlike only surveys or experiments that focus on variables in isolation, case studies seek to capture richness, context, and nuance.

Jennifer Rowley (2002) describes case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (p. 18). As conceptualized by Rowley (2002), “Cases need to be carefully selected so that they either produce similar results (literal replication), or produce contrasting results but for predictable reasons (theoretical replication)”.

(p. 21). For the purpose of this paper, cases were selected based on the data collected after a Global survey, where the cases belonged to different backgrounds and had different exposure to technology, but helped support the initial hypothesis.

The survey and case studies followed a set of predefined procedures needed to conduct the research. This included designing the research goal, establishing the cases, collecting the data, analyzing the data, and presenting and reporting the results. Selecting cases for the purpose of research (which in this case are multiple units of analysis) were directly relevant to the group I wished to study to establish the research goal and answer questions. For the purpose of this paper, I chose one participant from each major occupational background, based on the survey responses collected online.

According to Johansson (2002), case studies either follow a “deductive”, “inductive” or “abductive” mode of reasoning, based on the final aim of the researcher. This research followed a “deductive” mode where the “hypothesis was formulated and testable consequences were derived by deduction” (p. 21). This was based on the theoretical inference of the fluidity of genre, viewing it as a space where several individual, cultural and social forces meet, followed ultimately by the validation of the usefulness of storytelling to increase accessibility of emerging technologies.

One of the biggest challenges faced while using the case study method is that of generalization which isn’t possible while using the small amount of data gathered in a limited frame of time. It is important to understand the questions and purpose of using specific examples to make a general statement, and wise to refrain from generalizing specific findings to make a universal statement.

3.5 Data Collection

There were 207 responses collected from a Global survey, created on SurveyMonkey and circulated on social media platforms like LinkedIn, Facebook, WhatsApp and Instagram, followed by semi-structured interviews of 5 individuals over Zoom, WhatsApp video and FaceTime video. The participants of this survey belonged to India, Australia and the United States, and had varying degree of exposure to emerging technologies. They ranged in age from 12 to 89 and had access to a stable internet connection at home.

The survey collected responses about the participant's occupational background, exposure to technology, access to a stable internet connection and preferred mode of gaining knowledge about emerging technologies. The list of survey questions is attached to Appendix B.

After collecting the survey responses, there was a purposive sampling of 5 individuals who belonged to different occupational backgrounds (IT Professional, Homemaker, Retired Professional, Medical Professional and Student), followed by a presentation of 8 analogies to explain cloud computing concepts. These narratives were in the form of web comics and video storytelling from the Cloud Demystified website, and dealt with different analogies to explain Cloud Fundamentals.

After being presented with the above samples, the participants were asked to pick the sample that resonated the most with them. The rest of the interview questions were centered around their comfort and exposure to technology, access to a stable internet connection and willingness to learn more about emerging technologies using the storytelling format.

3.6 Participant Selection

The selection of participants for this study followed a stratified approach, which involved carefully identifying individuals based on important factors such as their socio-economic background, level of comfort with technology, and access to a stable internet connection. This strategy helped ensure that the study included a diverse and representative group, reflecting the range of exposure to emerging technologies across different populations. The research was deliberately kept open to people of varying ages and technical knowledge from those with little or no familiarity with technology to seasoned professionals who possess expert-level understanding.

To achieve broad reach and inclusive participation, the survey was distributed primarily through online platforms, making it accessible to respondents from various geographic and demographic contexts. In total, 207 individuals completed the questionnaire, providing a rich pool of data that reflected multiple perspectives and experiences. From this larger respondent base, five participants were selected for the detailed case study interviews, using statistical sampling methods to balance representation across key variables such as occupation, technology exposure, and internet connectivity.

The process of finalizing participants for the interviews involved a detailed examination of their survey responses to identify distinct profiles helpful for the study's aims. The first chosen participant was an IT professional with expert knowledge in emerging technologies, whose insights were expected to provide a deep understanding from a technical perspective. The second participant was a teacher familiar with technology and AI tools, representing an educational viewpoint with intermediate exposure to technological concepts. The third interviewee was a retired professional who, despite limited prior technical knowledge,

demonstrated a strong enthusiasm for learning about cloud computing, highlighting the interest among older adults.

Rounding out the participant group were a medical professional with moderate knowledge of emerging technology applications in surgery, and a homemaker with very minimal exposure to technology beyond everyday social media use. These individuals were selected to capture a broad spectrum of experience levels and learning needs. To protect their privacy and comply with ethical guidelines, all five participants are referred to solely by their professional roles in this study, ensuring anonymity while providing clear context for interpreting their feedback and perspectives.

3.7 Instrumentation

The instrumentation for this study comprises a structured questionnaire complemented by a statistical sampling of five individuals selected for interviews. This dual approach is designed to gather both quantitative and qualitative data evaluating the effectiveness and impact of using creative methods, such as storytelling, to demystify emerging technologies. Through this combination, the study aims to capture measurable trends alongside deeper insights into participants' experiences and preferences.

The questionnaire itself is divided into four main sections, supplemented by a demographic section that collects essential information about each respondent's occupation, level of exposure to technology, preferred learning styles, and access to stable internet. This comprehensive design enables a thorough understanding of factors influencing how individuals engage with and learn about emerging technologies, providing context for interpreting their responses.

Data collection is conducted through an online survey platform, allowing for broad distribution and participation from individuals representing diverse industries, socio-economic backgrounds, and varying degrees of familiarity with technology. The collected responses are then analyzed using graphical representations such as charts and graphs to identify patterns and key insights. This visualization aids in the clear communication of findings and supports robust comparison across different respondent groups.

Following the initial data analysis, five participants are purposively selected based on their occupational background to take part in semi-structured interviews. This structured instrumentation approach not only strengthens the reliability and validity of the data but also ensures a balanced evaluation of storytelling and analogies as tools for facilitating the adoption and understanding of emerging technologies. Together, the quantitative and qualitative findings offer a nuanced perspective on the potential and challenges of creative educational methods in technical fields.

3.8 Data Collection Process

The data collection procedure for this study was carried out on Survey Monkey through a structured online survey that was distributed across multiple social media platforms, including LinkedIn, Facebook, Instagram, and WhatsApp. This approach allowed the survey to reach individuals from a wide range of backgrounds and age groups. The questionnaire included four core questions along with a demographic section designed to capture key information about respondents' industry and professional backgrounds.

After gathering the survey responses, a comprehensive data cleaning process was undertaken to prepare the dataset for analysis. This involved removing unnecessary columns,

standardizing variable names to ensure consistency, and segmenting the data into sub-data frames aligned with various research objectives. These steps helped streamline the data and made it more suitable for targeted analysis of different aspects related to learning preferences and technology exposure.

The cleaned and organized data was subsequently used to select five participants for a detailed case study involving interviews conducted via Zoom and Google Meet. During these interviews, each participant was presented with eight analogies delivered through web comics and videos that explained emerging technologies. This was followed by unstructured interviews aimed at capturing their responses, preferences, and insights regarding the effectiveness of these creative learning materials.

3.9 Data Analysis

The data analysis process for this study employed both quantitative and qualitative methods to assess the effectiveness of creative techniques, such as analogies and storytelling, in demystifying emerging technologies. Initially, responses were collected from 207 participants through a structured online questionnaire. To prepare the data for meaningful analysis, a thorough cleaning process was undertaken, which involved removing redundant columns, standardizing variable names to ensure consistency, and organizing the dataset into sub-dataframes aligned with the specific research objectives.

Following data preparation, the refined dataset was utilized to identify five individuals who were selected for a more focused case study involving in-depth interviews. This targeted approach allowed for a deeper exploration of how participants from various socio-economic backgrounds and levels of technology exposure engage with and understand emergent

technological concepts. The selection was deliberate to capture a diversity of perspectives and experiences.

During the interviews, participants were presented with eight different analogies, delivered through creative formats such as web comics and video storytelling, designed to explain emerging technology concepts. Their responses were evaluated in the context of their background and prior exposure, enabling a nuanced understanding of how analogies and storytelling impact comprehension and learning preferences across varied audiences. This combined analysis thus provided rich insights into the potential of creative educational methods in making complex technologies more accessible.

3.10 Research Design Limitations

One significant limitation of using a mixed-methods approach combining quantitative surveys with qualitative case study interviews is the potential for sampling bias in both phases. While surveys distributed online can reach a broad demographic, there is an inherent selection bias towards individuals who have reliable internet access and are active on digital platforms. This could exclude populations who are less technologically engaged or who come from regions with limited connectivity, thus limiting the generalizability of the findings. Similarly, the selection of interview participants based on survey responses may reflect only those who are more willing to engage with research or who fit the researchers' predefined sampling strata, rather than representing the full spectrum of potential perspectives.

Another limitation pertains to the depth and reliability of the data collected through structured surveys. Surveys, by their design, rely heavily on closed-ended and standardized questions, which may not fully capture the complexity of participants' experiences or contexts.

Participants might also interpret questions differently or respond in socially desirable ways rather than giving honest answers, introducing potential response bias. As a result, important subtleties or contradictions in participants' attitudes and behaviors may go unaddressed until the qualitative phase.

The case study interview phase, despite offering rich qualitative insights, introduces its own set of challenges. With a small number of interviewees, typically selected purposively, the study risks issues of subjectivity and limited transferability. The personal biases of both researchers and participants can shape the flow and interpretation of interviews, especially if interviewers are familiar with the study objectives or participants feel compelled to provide responses they perceive as expected or favorable. Moreover, the unique backgrounds or experiences of a small group cannot be assumed to represent wider populations, limiting the scope of the study's conclusions.

Integrating findings from surveys and interviews also presents methodological difficulties. Mixed-methods designs must carefully reconcile potentially divergent or even contradictory findings between quantitative trends and qualitative narratives. The sequential structure, where survey data often influences the choice of interview participants may reinforce certain patterns while overlooking outlier cases that could provide valuable counterpoints. Additionally, translating qualitative insights into action or policy recommendations can be complicated if these findings do not align neatly with the broader quantitative results.

Finally, the practical and ethical constraints further limit mixed-method research designs. Ensuring privacy and anonymity, especially in the interview phase, can be difficult when discussing sensitive topics or when the pool of participants is small and easily identifiable through demographic details. Time and resource limitations also frequently constrain the number

and depth of interviews as well as the reach of survey distribution. These constraints may force compromises in study design or data interpretation, potentially impacting the reliability, validity, and impact of the research as a whole.

3.11 Conclusion

This study highlights the critical potential of creative storytelling methods particularly through comics and videos to bridge gaps in understanding complex and often intimidating technical concepts associated with emerging technologies. Traditional forms of technical communication, such as whitepapers and formal documentation, frequently alienate individuals outside of specialized fields. By leveraging narrative-driven analogies tailored to diverse socio-economic backgrounds and varying levels of technological exposure, this research demonstrates a promising approach to making advanced technological knowledge more accessible and engaging for broader populations including homemakers, senior citizens, educators, and professionals from non-technical domains.

Through a mixed-methods design combining a global survey and in-depth case study interviews, the research captures nuanced insights into how people across different professions, ages, and comfort levels with technology respond to storytelling-based educational tools. The inclusion of analogies presented via web comics and video stories fosters an interactive and relatable learning experience, which participants found valuable for grasping cloud computing and other emerging tech concepts. Moreover, the study underscores important ethical and cultural considerations in designing such creative instructional methods, advocating for careful attention to accuracy, inclusivity, and respect for diverse learning preferences while encouraging educators and learners to transcend traditional genre boundaries.

Ultimately, this study reinforces the need for multidisciplinary and creative approaches to technical education in the form of comics, videos outside the realm of traditional technical education and technical writing. By addressing knowledge accessibility challenges and cultural resistance through validated creative strategies, storytelling emerges not merely as an entertaining medium but as a powerful democratizing force in the rapidly evolving technological landscape. These findings encourage educators, communicators, and policymakers to embrace innovative, learner-centered methods that enhance equity and deepen understanding, thereby empowering a wider audience to engage confidently with the technologies shaping our future.

CHAPTER IV:

RESULTS

4.1 Demographic Information

For the purpose of this paper, 207 survey responses were studied and analyzed before going ahead with the purposive sampling for the case studies. Based on the survey responses one respondent from each major occupational group was selected for the interview.

Pie Chart for Occupation

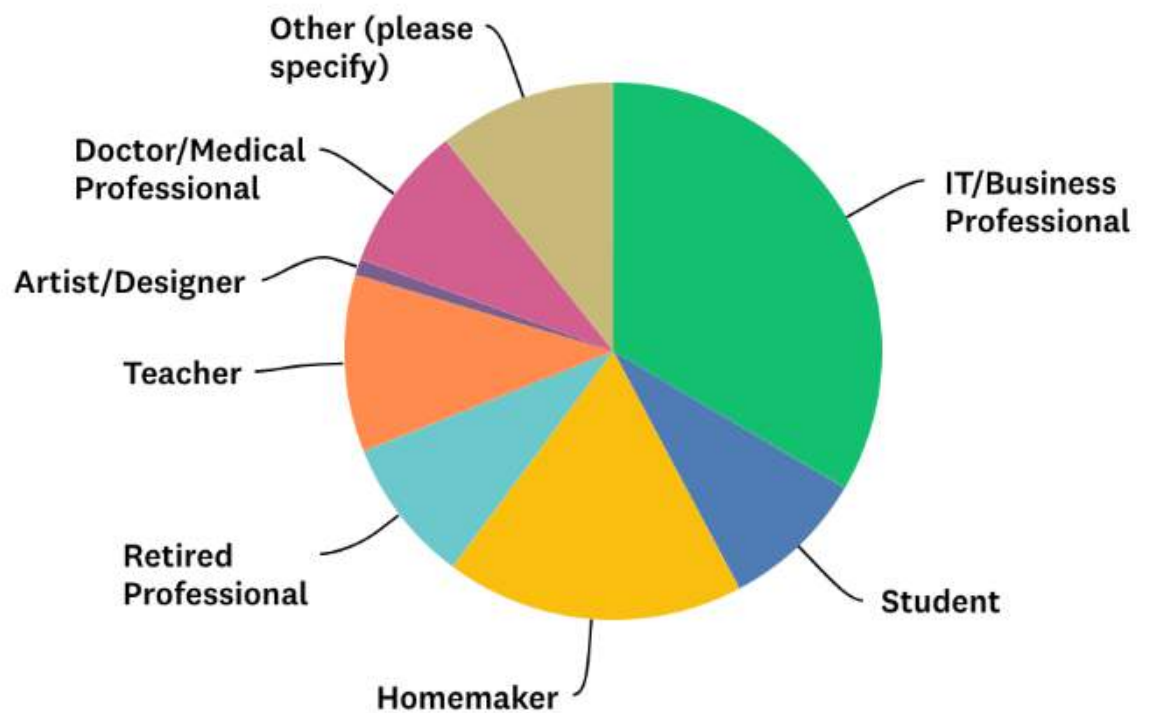


Figure 1 Distribution by Occupation

Observation:

IT professionals -> 69 responses – The dominant sector, expressing high level of interest in understanding emerging technologies.

Homemakers -> 39 responses – Key players showing a keen interest in learning about emerging technologies outside of their sphere of exposure.

Teachers -> 22 responses – More key players understanding the evolving worldview with a keen interest to adapt to the changes and upskill on emerging technologies to use within their day to day work.

Retired Professionals -> 19 responses - Moderate representation indicating a growing interest in learning about emerging technologies.

Doctors -> 19 responses – Another sector with moderate representation portraying interest in learning about practical application of emerging technologies in their field of work.

Students -> 8 responses – Representing a keen interest in learning about emerging technologies for upskilling, job search and day to day work.

Interpretation:

Based on the data, the majority of respondents came from an IT background, accounting for 33.50% of the participants, with moderate to strong exposure to technology. This prominence may have been influenced by the survey's use of the term "technology," which likely attracted IT professionals. This tendency highlights the existing gap and the widespread need to clarify and demystify the concept of emerging technologies beyond technical jargon.

In addition to IT professionals, there was significant participation from other occupational groups, including homemakers (39 responses), teachers (22 responses), retired

professionals (19 responses), doctors (19 responses), and students (8 responses). Their engagement reflects the growing interest and necessity for technology education across a broad range of fields outside of IT, pointing to the pervasive influence of emerging technologies in diverse sectors.

Each of these groups displayed varying degrees of exposure and motivation to learn about emerging technologies. Doctors and teachers primarily focused on understanding practical applications relevant to their professions, while homemakers and retired professionals showed a stronger inclination toward upskilling for personal development. This diversity underscores the importance of tailoring educational resources to meet the needs and goals of different audiences.

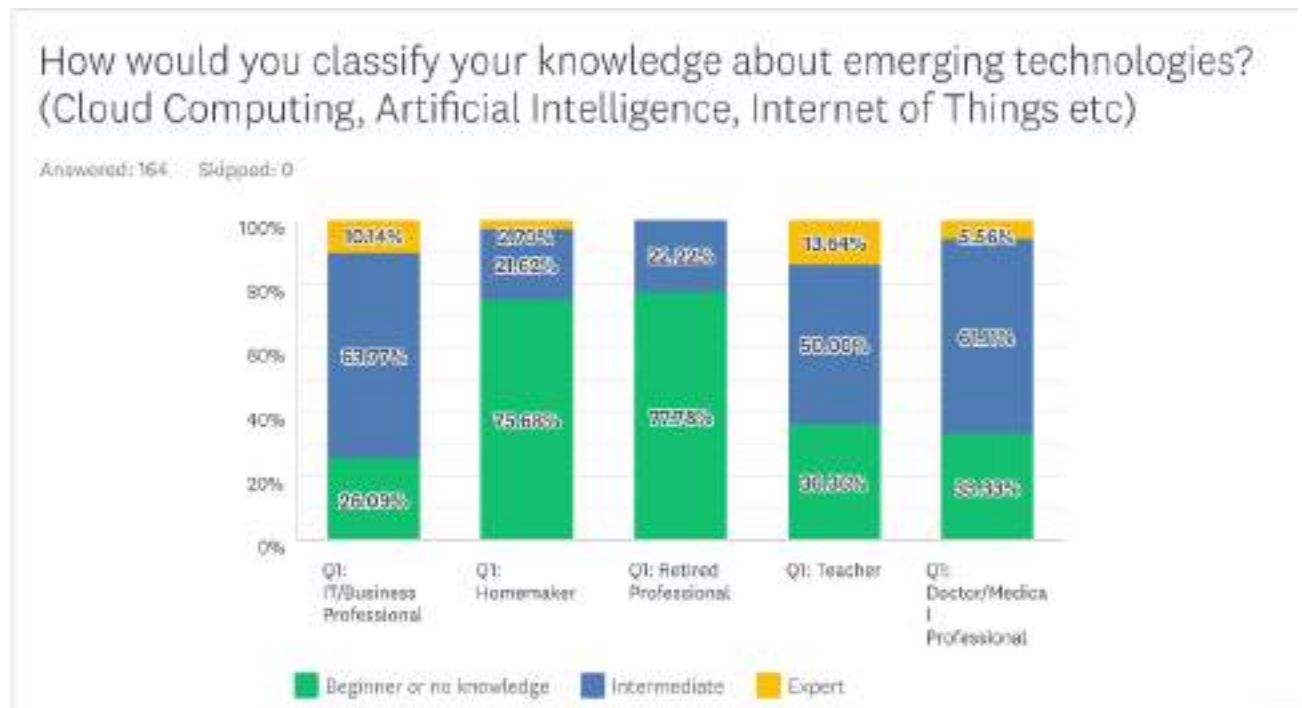


Figure 2 Exposure and Knowledge of Emerging Technologies

Observation:

A detailed examination of participant responses reveals notable variations in their familiarity with emerging technologies, which were shaped by factors such as educational attainment, age, and reliable access to the internet. These disparities are evident across different occupational groups, indicating that professional background significantly informs exposure and comfort with new technological developments. The analysis, as reflected in Figure 2, provides a nuanced picture of how roles and life circumstances mediate technological know-how among diverse populations.

Among the groups studied, IT and business professionals displayed the highest levels of intermediate (63.77%) and expert (10.14%) knowledge regarding emerging technologies, suggesting that those whose occupations are closely tied to technology are more likely to develop advanced understanding. In contrast, homemakers (75.68%) and retired professionals (77.78%) predominantly identified as beginners, highlighting a substantial gap in technology exposure possibly linked to limited formal training or professional requirements. Teachers and medical professionals showed more balanced distributions: while a significant portion reported intermediate knowledge (50% and 61.11%, respectively), a considerable share still positioned themselves as beginners (36.36% teachers and 33.33% doctors), with only a small fraction in each group reaching expert status.

Interpretation:

The data analysis uncovered significant differences in the levels of knowledge about emerging technologies across various occupational groups. Among the participants, doctors and IT professionals mostly demonstrated intermediate to expert levels of understanding. This

indicates a relatively high degree of familiarity with complex technical concepts within these professions. In contrast, teachers, homemakers, and retired professionals generally fell into the beginner category or had very limited exposure to such technologies, highlighting a gap in experience and knowledge across different sectors.

These variations in technological knowledge were particularly important for interpreting responses to subsequent survey questions. Understanding an individual's prior exposure and comfort with technology is critical because it directly affects how well they can grasp complex technical information. The finding that doctors, a group traditionally seen outside the core technology sector had a substantial proportion (61.11%) reporting intermediate knowledge reveals a noteworthy trend. This substantiated my earlier hypothesis that emerging technologies are increasingly influencing a wide range of professional fields beyond IT.

The presence of retired professionals with expert knowledge, accounting for 22.22% of that group, further emphasizes that interest in emerging technologies is not limited to active professionals in tech-related roles. This insight suggests a growing desire among a wider audience to engage with and understand technological advancements. Such trends underline the importance of developing educational materials that are accessible and engaging, rather than relying exclusively on conventional, technical, and dense formats like whitepapers.

Overall, the survey responses demonstrate a broad enthusiasm across different occupations and socio-economic backgrounds to learn about and apply emerging technologies. This widespread curiosity reflects the permeation of technology into everyday life and work, and it points to the increasing need for inclusive educational strategies. Tailoring learning approaches to meet diverse needs and familiarity levels can help bridge knowledge gaps and empower a wider range of individuals.

These insights open up significant opportunities for deploying more creative and inclusive methods of technology education. Utilizing formats like storytelling, analogies, comics, and videos can make technical concepts more accessible and relatable, especially for those with limited prior exposure. By embracing such innovative approaches, educators and communicators can foster deeper understanding and broader participation in the evolving technological landscape.

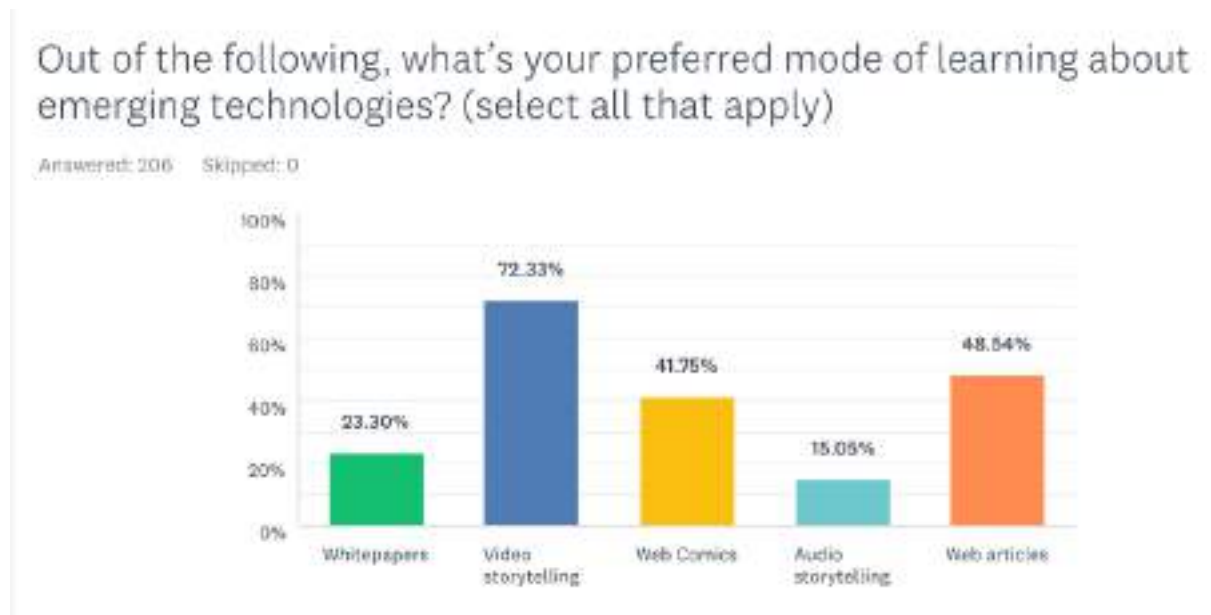


Figure 3 Preferred mode of Learning

Observation:

The respondents were asked about their preferred mode of learning about emerging technologies, which ranged from whitepapers (belonging to the genre of technical writing) to video stories and comics (belonging to the genre of storytelling). A generic breakdown was crucial to my hypothesis, since a majority of the respondents (72.33%) preferred the video

storytelling mode to understand emerging technologies, followed by web articles and web comics.

Whitepapers -> 23.30%

Video Storytelling -> 72.33%

Web Comics -> 41.75%

Audio Storytelling -> 15.05%

Web Articles -> 48.54%

Interpretation:

The survey results clearly indicate that video storytelling is the most preferred method for learning about emerging technologies, with 72.33% of respondents selecting this option. This preference highlights the power of dynamic, narrative-driven visual content in capturing attention and making complex technological concepts easier to understand for a broad audience. Videos combine motion, sound, and storytelling elements, which likely contribute to their effectiveness in conveying technical information in an engaging way.

In addition to video storytelling, nearly half of the participants (48.54%) favored web articles, while a notable 41.75% preferred web comics. These formats, which rely more on traditional written content or illustrative storytelling, still enjoy considerable popularity, suggesting that diverse learning styles are at play. However, only 23.30% of respondents chose whitepapers, pointing to a considerably lower interest in dense, technical, and text-heavy materials that often require prior expertise or high patience to digest.

Audio storytelling was the least favored learning mode, attracting just 15.05% of respondents. This comparatively low preference may indicate that purely auditory formats are less effective or appealing for explaining complex technological subjects. Taken together, the

data supports the hypothesis that most people find interactive and visually rich storytelling formats, particularly videos more approachable and compelling than conventional technical documents or audio content when learning about emerging technologies.

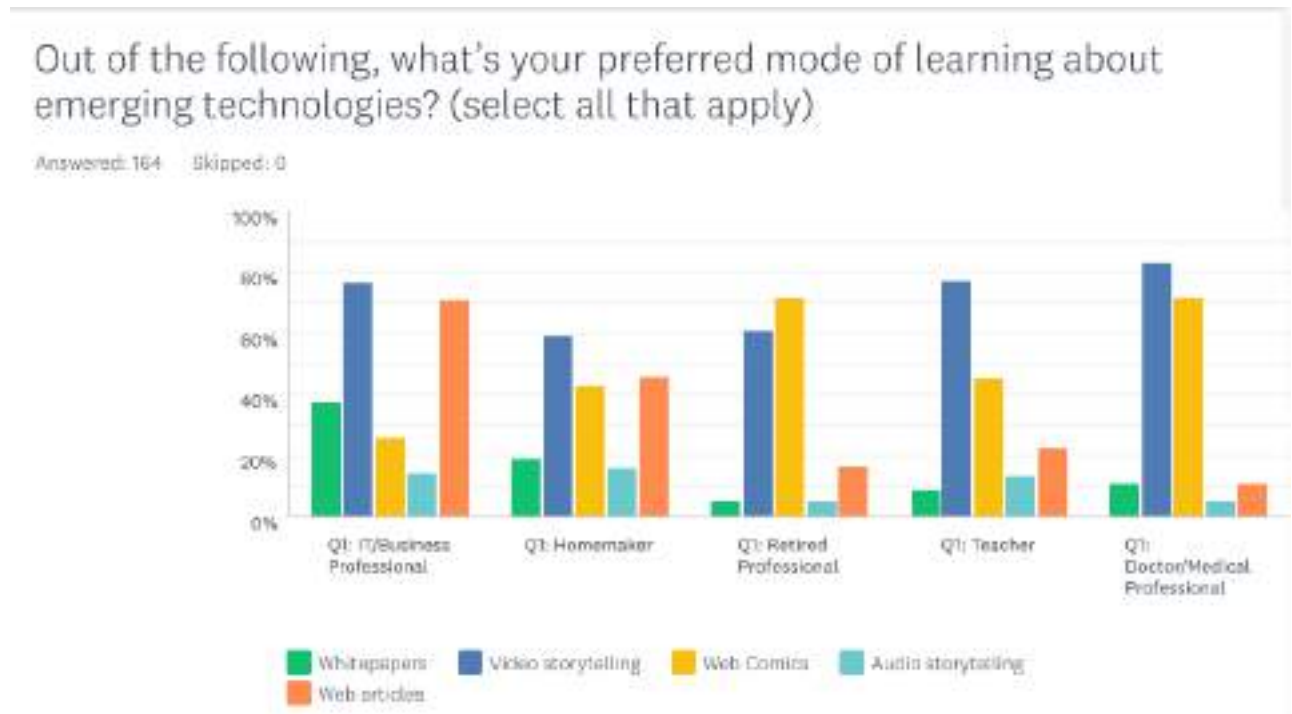


Figure 4 Breakdown of Responses to Preferred Mode of Learning

Observation:

A profession-focused analysis of learning preferences reveals distinct patterns in how individuals engage with educational content about emerging technologies, shaped by both their occupational backgrounds and their prior exposure to such concepts. The data indicates a clear divergence between those with beginner to intermediate levels of expertise namely homemakers and retired professionals and those with more advanced or specialized technical knowledge, such as IT/business professionals, teachers, and doctors.

Among participants with limited formal exposure to emerging technologies, notably homemakers and retired professionals, video storytelling and web comics emerged as the preferred modes of learning. For homemakers, 60% indicated a strong preference for video storytelling, with 45% favoring web comics. Retired professionals showed an even stronger inclination towards visual and narrative-driven formats, with 60% choosing video storytelling and an impressive 72% opting for web comics. In stark contrast, their engagement with traditional technical manuscripts was quite limited only 18% of homemakers and a mere 5% of retired professionals preferred whitepapers. These findings suggest that multimodal, story-based educational materials are highly effective for audiences lacking substantial technical training, making complex concepts more relatable and less intimidating through the use of familiar analogies and accessible storytelling.

Turning to IT and business professionals, the data presents a more nuanced picture. While 78% preferred video storytelling, mirroring trends seen in groups with less technical exposure, a notable segment (38%) remained comfortable engaging with conventional technical documents like whitepapers. Furthermore, 28% of IT/business professionals expressed a liking for web comics, illustrating a continued openness to creative learning formats alongside formal documentation. Web articles also held significant appeal within this group, with 70% indicating a preference, likely reflecting the fast-paced need to digest up-to-date, succinct content relevant to their professional context. These choices underscore that, even among those with higher technical aptitude, visual and story-rich media can serve as valuable complements to traditional text-based resources, promoting comprehension and retention.

Interestingly, the preferences of medical professionals and teachers deviated from expectations based on their self-reported moderate to expert technological aptitude. Rather than

gravitating toward dense manuscripts, both groups demonstrated a pronounced favor for engaging and visual educational strategies. Video storytelling was preferred by 82% of medical professionals and 78% of teachers, making it the dominant learning mode in both professions. Web comics also proved highly effective, with 72% of doctors and 45% of teachers expressing a preference for this format. Traditional whitepapers were markedly less popular among these groups—only 12% of doctors and 11% of teachers selected them as their favored medium, with the vast majority opting for formats that balance clarity, visual engagement, and narrative accessibility. This trend suggests that even those who are technically competent seek resources that distill complex subject matter into digestible, relatable stories, particularly when facing time pressures or interdisciplinary learning challenges.

Audio storytelling and web articles received modest to low preference ratings across all professions, with their appeal largely trailing behind video and comic-based content. For instance, audio storytelling was favored by only 17% of IT/business professionals, 18% of homemakers, and dropped to just 3% among doctors. Web articles maintained moderate popularity among IT/business professionals (70%) and homemakers (55%), but lagged among retired professionals, teachers, and doctors. Audio-based formats and traditional articles may lack the immediate engagement and clarity provided by more visual or interactive options, thereby explaining their generally lower selection.

Collectively, these findings highlighted the growing importance of tailoring educational strategies in technology learning to the varied backgrounds and evolving preferences of diverse learner populations. The data affirm that story-driven videos and web comics are not merely attractive but are highly effective tools, particularly for those beginning their journey with new technologies or working in fields outside IT. Conversely, while traditional whitepapers retain

relevance for IT professionals, a clear majority, even within technical circles are increasingly drawn to formats that prioritize engagement and accessibility. Meanwhile, medical professionals and teachers, despite possessing technical sophistication, choose learning methods that accommodate time constraints and offer clarity without sacrificing depth.

4.2 Interpretation

The detailed analysis of preferred learning modes across different professions reveals distinct preferences that align with the respondents' familiarity and comfort with emerging technologies. Homemakers and retired professionals, who generally have beginner to intermediate exposure, favor more visually engaging and narrative-driven formats such as video storytelling and web comics, with 60% or more showing preference for these modes. These formats likely offer an accessible and enjoyable way to grasp new technological concepts without requiring deep technical knowledge. Conversely, IT and business professionals, who are more technically adept, show a more balanced preference, with a significant portion (38%) also comfortable with traditional technical writing like whitepapers, alongside strong support for video storytelling (78%) and web articles (70%), which offer both depth and engagement.

Interestingly, medical professionals and teachers, despite reporting moderate to expert levels of technical knowledge, display learning preferences similar to those of beginners in some respects. They show a strong inclination towards video storytelling (82% and 78%, respectively) and web comics (72% and 45%), suggesting that even experienced users value engaging and illustrative formats to comprehend technological information effectively. The low preference for whitepapers (under 20%) among these groups implies a possible preference for more dynamic or visually enriched content over purely technical documents, potentially due to the way these

professionals integrate technology learning within their busy schedules or apply it in practical contexts. Overall, this breakdown underscores the importance of tailoring educational content about emerging technologies to suit different audiences' expertise levels and learning preferences.

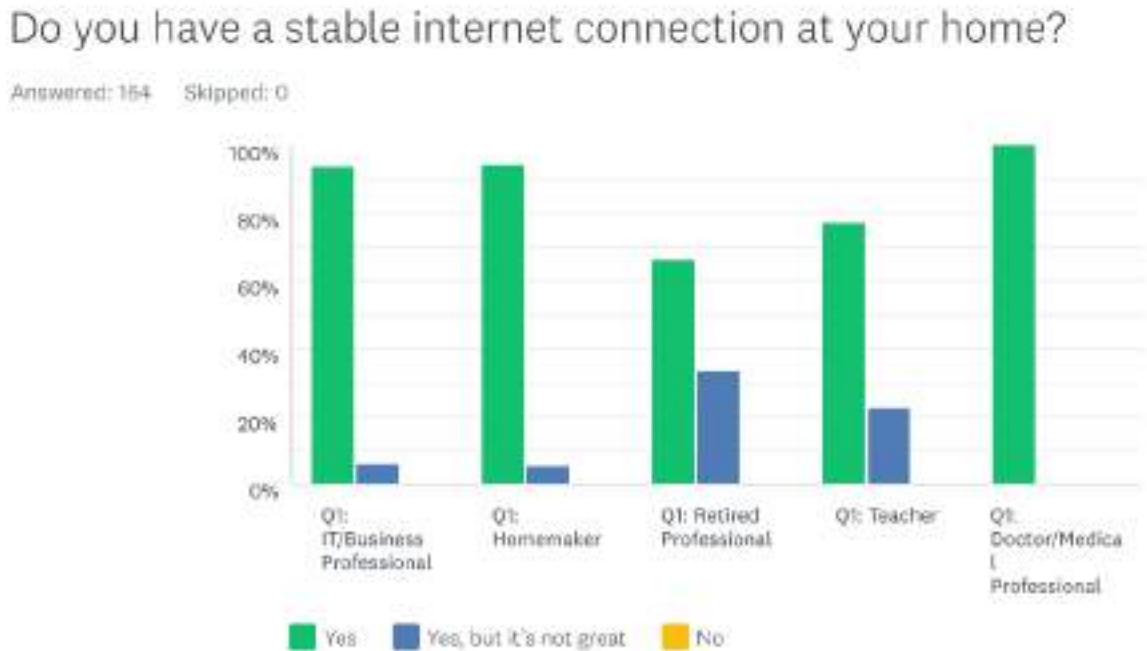


Figure 4 Stable Internet Connection at Home

Observation

Responses to the final survey question explored each respondent's access to a stable internet connection, as represented in Figure 5. While having reliable internet contributed to a preference for dynamic formats like videos, this factor did not substantially alter most participants' choices between more bandwidth-intensive content such as videos and less demanding formats like web comics. For example, teachers continued to favor videos even when

experiencing some internet instability, suggesting that factors beyond connectivity play a significant role in shaping their learning mode preferences.

Interestingly, about one-third of retired professionals who reported inconsistent internet access displayed a tendency to select web comics over video content. This shift suggests a practical adaptation to connectivity limitations, at least among this group. Nevertheless, overall, the case study did not strongly weight internet access as a variable since nearly all participants could rely on adequate home connections. As a result, internet stability did not emerge as a prominent influence on learning mode selection across the broader sample.

4.3 Summary of the Survey Responses

The responses underscored the flexible and evolving nature of genre when it comes to communicating technical concepts. Rather than showing a clear preference for just technical or traditional formats, many participants embraced storytelling as a valid and appealing way to learn about emerging technologies. This openness indicated that the boundaries between genres like technical writing and narrative-driven content are more permeable than often assumed.

These observations became a crucial foundation for my subsequent case study analysis. By demonstrating that storytelling was not disregarded, even among audiences traditionally seen as favoring technical details. The survey responses highlighted a notable shift in how information about complex subjects can be effectively shared. This shift encouraged a broader exploration into the role of creative educational methods within technical domains.

Drawing from these findings, the development of interview questions centered around the influence of cultural factors in shaping participants' choices. The aim was to understand not just what modes of learning were preferred, but why individuals gravitate towards certain

approaches, and how their backgrounds, societal context, and everyday experiences impact their openness to narrative techniques in technical education.

4.4 Case Study Interview

For the purpose of the case study, five survey respondents were selected to participate in interviews conducted via video platforms such as Zoom, WhatsApp Video, and FaceTime. These interviews were not recorded on video; instead, only transcriptions were made to protect the confidentiality of the participants and facilitate analysis for the paper. Once the study was completed, all video materials were destroyed to ensure compliance with ethical research standards and Institutional Review Board (IRB) guidelines.

To maintain anonymity and safeguard privacy, the participants are referred to solely by their professions throughout the paper. This approach aligns with IRB requirements and prevents any direct identification of the individuals involved. The selected participants came from diverse professional backgrounds, which included an IT professional, a teacher, a retired professional, a medical professional, and a homemaker.

The interview questions focused on several key areas, including each participant's exposure to emerging technologies, the quality of their internet access, and their preferred analogy for understanding the fundamentals of cloud computing. These topics were chosen to explore not only the technological familiarity across professions but also the effectiveness of different explanatory methods for complex concepts.

1. How effectively did the comics help you understand the technical concept presented?
Can you explain which parts were most clear or confusing?

2. Which elements of the comic such as visuals, analogies, or narrative resonated with you most, and how did they aid your comprehension?
3. Did you find the comic relatable to your own experiences or background? If so, how did that affect your engagement with the material?
4. Compared to traditional technical documents or videos, how did this comic format influence your interest in learning about the topic?
5. What suggestions do you have to improve the comic or similar storytelling approaches to better support learners with diverse backgrounds and knowledge levels?

Internet access was consistent and stable among all five participants, so this factor was not heavily weighted in the analysis. However, the participants varied widely in their familiarity and experience with emerging technologies, particularly cloud computing. The IT professional demonstrated expert-level knowledge and extensive experience with cloud technologies, while the homemaker and retired professional showed minimal to no prior exposure.

In contrast, the medical professional and the teacher fell somewhere in between, with intermediate levels of understanding and engagement with emerging technologies. This diversity in expertise allowed for a broad representation across the technology exposure spectrum, offering valuable insights into how different backgrounds influence the comprehension of advanced technical concepts.

Following the initial discussions, each participant was presented with eight analogies designed to explain cloud computing. These analogies were delivered through web comics and video storytelling formats, sourced from the Cloud Demystified website. Participants were then asked to indicate which analogy they preferred, providing qualitative data on how narrative-driven educational tools resonate differently across professional and experiential backgrounds.



Figure 5 Cloud Fundamentals Using Analogy of a Laundromat

The first comic effectively introduced the fundamental concepts of cloud computing by using an analogy centered around a laundromat. It illustrated how a laundromat functions as a shared facility where individuals can wash their clothes by paying based on usage or by renting machines for a certain period. This setup serves as a metaphor for cloud services, which provide shared computing resources that users can access on demand without owning the infrastructure themselves. The comic conveyed this analogy through a lively question-and-answer conversation between a mother and her daughter, making the explanation approachable and engaging. This dialogic format helped to simplify and clarify complex technical terms, transforming abstract concepts into familiar, everyday experiences.



Figure 6 IAM Using Analogy of a Hotel Stay

The next comic explored the concept of Identity and Access Management (IAM) by drawing a parallel to the familiar experience of a hotel stay during a vacation. In this analogy, the comic likened various IAM principles, such as roles, access levels, permissions, and security best practices to the way hotels manage entry and security for their guests and staff. For example, just as guests receive key cards allowing access to their own rooms and certain common areas, IAM systems assign users specific roles and permissions that dictate what resources they can access within a digital environment. Restricted hotel areas, such as maintenance rooms, require additional authorization, mirroring how sensitive data and administrative functions in IT systems require elevated privileges or special access.

This narrative was brought to life through a conversational dialogue between a mother and her daughter, making the explanation interactive, engaging, and easy to follow. By grounding technical concepts in a context most readers are familiar with navigating the rules and routines of a hotel, the comic broke down otherwise abstract security details into clear, relatable scenarios. The approachable format successfully demystified topics such as access control, credential management, and security protocols, ensuring that individuals regardless of their technical background could grasp the importance and application of IAM. Ultimately, by connecting cybersecurity best practices to everyday experiences, the comic empowered a broad audience to better understand and appreciate the critical role of IAM in safeguarding information systems.



Figure 7 AI/ML/DL Explained Using Analogy of a Basketball Game

The following comic employed the analogy of a basketball game to elucidate the complex concepts of Artificial Intelligence, Machine Learning, and Deep Learning. It portrayed the journey of a novice player learning basketball fundamentals, training their cognitive and physical skills, and progressively improving through practice and experience. This narrative served as an accessible metaphor for how AI systems similarly learn from data, refine predictive models, and enhance performance over time. The comic utilized a question-and-answer conversational format between a mother and daughter, which facilitated clear and engaging communication of abstract ideas. By likening algorithmic learning processes to the familiar experience of sports training, the comic simplified intricate technical principles and encouraged comprehension among audiences with varying levels of prior knowledge. This approach effectively demystified the hierarchical relationship between AI, ML, and DL, making the subject more approachable and memorable.



Figure 8 Cloud Storage Using Analogy of a Library

The subsequent comic employed the analogy of organizing books in a library to elucidate the concept of Cloud Storage. It illustrated various storage options, like File Storage, Block Storage, Object Storage, Backup and Archival Storage, Data Transfer, and Queues by comparing them to methods of categorizing, storing, and retrieving books in a well-managed library system. This analogy helped clarify the diverse ways cloud providers store and manage data, such as hierarchical file-based systems (like shelving books), discrete block-level storage (akin to individual pages), and scalable object storage (comparable to cataloged collections). The comic conveyed these complex concepts through a conversational format, making the technical distinctions accessible and understandable to a broad audience. By grounding abstract cloud storage architectures in the familiar context of library organization, the material fostered enhanced comprehension of data management processes, storage types, and retrieval methods employed by cloud platforms, thereby contributing to more inclusive cloud technology education.



Figure 9 Load Balancing Using Analogy of a Bus

The next comic explained the concept of load balancing through the everyday example of a crowded bus and the role of a bus conductor in managing passengers. It illustrated how the conductor balances the number of passengers boarding and alighting to prevent overcrowding, thereby ensuring smooth service without disruption. This analogy was employed to clarify key technical concepts such as load balancing, high availability, and low latency in cloud computing and network systems. Presented as a simple, relatable conversation between a mother and daughter, the comic used this familiar scenario to demystify how load balancers distribute workloads efficiently across servers. By connecting complex technological functions to a common real-life situation, the comic made these abstract ideas accessible and engaging, especially for learners with limited prior exposure to technical content. This narrative approach highlighted the importance of balancing system demands to maintain reliability and performance in digital environments.



Figure 10 Cloud Migration Using Analogy of a Family Relocation

The next comic explains the concept of cloud migration by drawing an analogy to a family moving between houses. It illustrates various migration methodologies through a relatable narrative of packing, transporting, and settling into a new home. The dialogue, presented in a simple conversational style between a mother and daughter, walks the audience through different strategies such as “lift and shift” (rehosting), re-platforming, and phased migration, using everyday experiences to clarify the processes involved. This storytelling approach effectively demystifies complex cloud migration concepts by linking technical strategies to familiar real-life tasks like organizing belongings, planning moves, and adapting to new environments. By grounding abstract cloud migration methodologies in the context of a family’s house-shifting journey, the comic makes the subject accessible and engaging for diverse audiences, emphasizing both the practical challenges and strategic decisions involved in migrating data and applications to the cloud.



Figure 11 Cloud Services Using Analogy of a Recording Studio

The next comic explained the concept of Cloud Services, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) by creating a parallel to a recording studio. Within this analogy, artists choose to rent different levels of the studio's offerings: from the physical infrastructure like sound equipment (IaaS), to a managed platform for creating music (PaaS), or fully developed software applications for editing and producing tracks (SaaS). This framework provided an accessible means to understand the varying degrees of control, management, and service responsibilities associated with each cloud model. Additionally, the shared security and responsibility model intrinsic to cloud computing was clarified through a conversational dialogue between a mother and daughter, highlighting the division of security duties between service providers and users depending on the service type. By grounding abstract cloud service paradigms in a familiar creative environment, the comic made these technical distinctions more tangible and comprehensible.



Figure 12 Cloud Security Explained Using the Story of the Three Little Pigs

The sole video utilized in this study employed the familiar narrative of the Three Little Pigs to illustrate fundamental concepts of Cloud Security. By drawing parallels between the story's elements and technical aspects such as firewalls, encryption, identity management, and core security principles, the video demystified complex cybersecurity topics in an accessible manner. The well-known tale served as an effective metaphorical framework, enabling learners to connect abstract security mechanisms with tangible scenarios involving protection, defense, and risk mitigation. All participants were familiar with the story, which fostered engagement and facilitated comprehension by leveraging shared cultural knowledge. The video's narrative approach broke down intricate cloud security topics into relatable components, thereby reducing intimidation often associated with technical documentation. Through this storytelling format, key security concepts were conveyed clearly and memorably, highlighting the potential of creative

analogies and culturally resonant stories in enhancing technology education for diverse audiences.

4.5 Case Study Responses

After going over the eight analogies in the form of comics and video, each participant responded to the questions followed by discussion of 30min on their responses and choices.

1. How effectively did the comic help you understand the technical concept presented? Can you explain which parts were most clear or confusing?

All five participants were posed the same set of questions aimed at exploring their individual interpretations of the analogies presented, as well as their key takeaways from the educational materials. The goal was to gauge how effectively the storytelling techniques, specifically through comics and videos, conveyed complex technical concepts related to cloud computing and emerging technologies. Each respondent affirmed that the combination of comics and video storytelling was a useful and engaging method for explaining the foundational principles behind several core topics: Cloud Computing, Cloud Load Balancers, Identity and Access Management (IAM), Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning, Cloud Storage, Cloud Migration, Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Cloud Security. Their responses underscored the potential of analogy-driven, visual narratives to demystify intricate technical subjects across diverse audiences with varying levels of prior knowledge.

The analogy likening Artificial Intelligence to a basketball game was particularly well received by the homemaker. She expressed that this comparison resonated deeply with her lived

experience, making an otherwise abstract concept more tangible and memorable. The metaphor employed familiar elements from sports, team coordination, training, strategy which enabled her to mentally map the way AI systems learn and function through iterative training and pattern recognition. The concrete imagery of a basketball game provided a narrative context that made the technical information less intimidating and more relatable, illustrating the power of culturally familiar analogies in facilitating comprehension.

Similarly, the student participant highlighted the analogy of house shifting to explain the concept of Cloud Migration, noting its clarity and practical appeal. He described how the comic effectively visualized the process of moving data and applications from traditional local environments to cloud-based infrastructures by comparing it to moving household items from one home to another. This vivid analogy helped him grasp the complexities of migration logistics, such as data transfer, reorganization, and infrastructure adaptation. The student further reflected on his prior difficulties in understanding the notion of Azure migration, a specialized form of cloud migration managed through Microsoft's Azure platform and expressed that the comic presentation significantly clarified these concepts that had previously elicited confusion. This illustrates how analogical storytelling can bridge technical gaps by translating niche or complex processes into everyday experiences.

On the other hand, the doctor offered a nuanced perspective, finding that the video based on the story of the Three Little Pigs which aimed to explain aspects of Cloud Security was somewhat confusing. Despite generally favoring visual learning aids such as infographics and comics, he explained that this particular analogy did not align perfectly with his cognitive schema or expectations for technical clarity. He noted that while the narrative was engaging, it presented challenges in connecting the metaphorical elements directly to specific cybersecurity

principles. This insight points to the importance of carefully calibrating analogies to the knowledge base and cognitive preferences of the target audience; even well-crafted storytelling may require refinement to optimize clarity for professionals with technical backgrounds.

The retired professional's feedback conveyed a strong sense of newfound understanding and appreciation for AI technologies. Having long been intrigued by the hype surrounding Artificial Intelligence but finding it difficult to penetrate due to technical jargon, he warmly welcomed the basketball analogy. He explained that the comparison illuminated how AI systems are “trained” to perform tasks through repeated practice and learning from data, much like athletes honing their skills. This accessible framing enabled him to conceptualize the underlying mechanisms of AI and machine learning without feeling overwhelmed, a good foundation to the discourse around democratizing effect of well-designed educational narratives on technology literacy among non-technical audiences.

Across these varied responses, a common theme emerged: the effectiveness of comics and videos lies largely in their capability to anchor technical ideas within familiar cultural frameworks and relatable daily experiences. By doing so, they reduce cognitive load, heighten engagement, and foster deeper understanding. The diversity of analogies, ranging from sports and homemaking to classic stories provided multiple entry points suited to the distinct backgrounds and cognitive styles of the participants. This confirms the importance of employing a diverse suite of narrative strategies when designing educational content aimed at heterogeneous learner populations.

In summary, the interviews revealed that creatively structured analogies in comics and video formats hold substantial promise in clarifying complex topics in cloud computing and emerging technologies. While some nuances in clarity and preference varied among individuals,

the overarching sentiment clearly favored these storytelling approaches over traditional, text-heavy explanations. This feedback supports the potential for broader adoption of such multimodal, culturally sensitive educational tools in technical communication, ultimately paving the way for more inclusive and effective technology learning experiences across diverse demographics.

2. Which elements of the comic such as visuals, analogies, or narrative resonated with you most, and how did they aid your comprehension?

When invited to reflect on their experiences with the comic and narrative-based approach to explaining technical concepts, each participant articulated a distinct response, shaped by their professional backgrounds and prior engagement with technology. The homemaker reported a strong affinity for the comic's use of straightforward storytelling, noting that the format closely resembled informal discourse among peers or acquaintances. This familiarity promoted a learning environment characterized by ease and relatability, allowing complex technological content to be assimilated within the context of everyday experience. The accessibility of the narrative structure effectively diminished barriers to comprehension that are commonly associated with traditional, jargon-heavy instructional materials.

In contrast, both the IT professional and the doctor emphasized the value of analogies embedded within the narrative. They observed that these analogical elements facilitated the translation of technical abstractions into more comprehensible forms without compromising conceptual rigor or appearing reductive. For these participants, the interplay between clarity and sophistication was paramount: the narrative maintained the integrity of the underlying subject matter, while simultaneously rendering it approachable. This method was viewed as preferable to

conventional manuals, which are often perceived as either overly complex or insufficiently engaging.

The retired professional remarked positively on the logical progression of the comic's narrative. He appreciated the intentional sequencing, which introduced foundational concepts initially and subsequently advanced toward more detailed explanations. This scaffolded approach was critical in supporting incremental learning and methodically reinforcing understanding, particularly valuable for individuals returning to technical subjects following a period of professional inactivity. The structured flow enabled sustained engagement, ensuring that learners were not overwhelmed by complexity at the outset.

From the perspective of the educator, the dialogic or question-and-answer format within the comic was identified as especially effective. She noted that this structure mirrored interactive pedagogical strategies that encourage active inquiry and reflection among learners. The inclusion of iterative questioning facilitated engagement with the material, supporting the development of critical thinking and deeper comprehension. This alignment with educational best practices underscores the value of narrative interactivity in promoting meaningful learning outcomes.

Collectively, these responses underscore the necessity for educational interventions in technology to be both diverse and contextually sensitive. The efficacy of the comic and narrative approach was contingent on factors such as prior knowledge, professional orientation, and preferred learning styles. The findings suggest that integrative strategies, including simplification without dilution, adaptive narrative sequencing, and dialogic engagement are instrumental in fostering inclusive and effective technology education for heterogeneous learner populations.

3. Did you find the comic relatable to your own experiences or background? If so, how did that affect your engagement with the material?

In addressing this question, the responses revealed nuanced patterns in how individuals from diverse backgrounds envision incorporating emerging technologies, such as Cloud Computing and Artificial Intelligence into their daily lives. Each participant brought their own motivations and prior familiarity to the material, which significantly shaped their engagement with the content and their preferred learning outcomes. The homemaker, for example, expressed a keen personal interest in understanding more about Cloud Computing and AI, primarily as a means of personal enrichment rather than immediate professional application. Her curiosity stemmed from a desire to remain technologically literate amidst rapid digital change, highlighting the growing trend of non-specialists seeking out accessible, user-friendly resources to keep pace with technological advancement.

In contrast, for the IT professional and the doctor, the intention to harness technological knowledge had a direct bearing on their professional roles. They approached the study materials with a focus on practical applicability how the concepts and tools could be integrated into their everyday work environments. The IT professional sought specific, actionable takeaways that could enhance workflow efficiency, data management, and problem-solving in technical domains. Similarly, the doctor envisioned leveraging Cloud and AI not only for administrative tasks but also for optimizing patient management, diagnostics, or healthcare data security. For these participants, the degree of detail and precision in the material was paramount. They valued explanatory depth, troubleshooting scenarios, and contextual applications of the technology, seeking narratives that translated directly to skill acquisition and immediate professional benefit.

Meanwhile, the teacher and the retired professional occupied a middle ground. They were already acquainted with foundational concepts in Cloud Computing, such as basic infrastructure and service models, but encountered fresh insights when it came to more advanced topics like Security and Load Balancing. For them, the content served as both a refresher and a means for targeted upskilling. Their motivation was closely linked to personal and professional development; they were eager to expand their technological toolkit and explore whether these new understandings could enrich their teaching practice or post-retirement activities. They appreciated materials that struck a balance between readability, structured progression, and the capacity to introduce novel yet digestible information.

What emerged as particularly salient through these interviews was how participants' intended use for the technology deeply influenced both their learning preferences and their evaluation of the instructional materials. Those looking to immediately apply concepts in a professional setting demanded greater specificity and rigor. They were drawn to granular explanations, real-world examples, and clear frameworks that could be translated directly into tasks or problem-solving strategies. Conversely, individuals focused on personal learning or general upskilling were more attentive to the flow, format, and narrative accessibility of the materials. For them, a relaxed, easily navigable format inspired ongoing interest and confidence, even in the face of unfamiliar topics.

This variability in expectations underscore the importance of adaptive educational design. Resources need to be flexible enough to serve both in-depth, occupation-focused learners and those seeking general literacy in technology. The findings bring to light the ethical implications in creating and disseminating educational content for emerging technologies. Given that much of this material is open to interpretation, there is an ethical obligation on the part of educators and

content creators to balance clarity with substance, and to provide context for application while avoiding misrepresentation or unnecessary simplification. Narratives that are too generic may fail to prepare learners for practical challenges, while overly technical content may alienate those less experienced, reinforcing digital divides.

Moreover, these results highlight a critical issue in pedagogical strategy: the necessity for inclusive design that anticipates and accommodates interpretive flexibility. Educational materials must be transparent about their intended scope and limitations, signaling to users when further inquiry or context-specific adaptation is required. For example, topics such as Cloud Security or Load Balancing, often disregarded outside IT circles should be introduced using analogies and stories that demystify the concepts while embedding sufficient practical detail for those seeking direct implementation. This careful calibration of educational voice and content depth is not only a matter of effective communication but also of equitable access to technological literacy.

In summary, the diversity in participant intentions and backgrounds illustrated the multifaceted demands placed on technology education today. Whether learners approached the material for professional application or personal advancement, their interpretations were informed by their unique contexts and aspirations. This underscores the need for multifaceted, ethical, and adaptable educational approaches that respect and leverage this diversity. As emerging technologies become ever more embedded in daily life and work, educational practices must move beyond a one-size-fits-all model to one that is responsive, inclusive, and ethically grounded ensuring all learners can meaningfully engage with and benefit from technological change.

4. Compared to traditional technical documents or videos, how did this comic format influence your interest in learning about the topic?

All individuals interviewed in this study consistently articulated the challenges they experienced in attempting to learn and internalize both basic and complex technological concepts through traditional technical writing and whitepapers. These conventional formats, while thorough and precise, were frequently described as overwhelming and inaccessible to those without substantial prior technical expertise. Participants across differing backgrounds, ranging from homemakers to retired professionals and medical practitioners noted that dense textual documentation often leads to frustration, disengagement, and a sense of exclusion from the technological discourse. The structured, jargon-heavy nature of such documents was cited as a primary barrier, contributing to a disconnect between the creators of technical materials and the intended consumers, especially for those less familiar with technology.

The homemaker, in particular, emphasized the inclusivity of comics and videos as alternative educational tools. She highlighted how the narrative and visual storytelling within comics demystified technical topics and rendered them approachable, even for individuals with no technical background. According to her, the illustrated examples and story-driven explanations made it easier not only to follow the logic of new concepts but also to remember and apply them in real-life scenarios. The sense of relatability fostered by these materials eroded the intimidation factor so often present in formal technical documentation, encouraging persistent engagement and a willingness to explore further. This testimony underscores the capacity of creative, multimodal resources to democratize technology education and provide genuine entry points for learners who might otherwise be marginalized.

Both the retired professional and the doctor echoed similar sentiments, affirming the power of comics and videos to transform their interactions with technology-related knowledge. They elaborated that, beyond enhancing comprehension, these formats possess a distinctive, catchy quality that naturally garners interest, even among those who do not consider themselves tech-savvy or particularly motivated to explore new technologies. The retired professional noted that the use of simple analogies and visually engaging narratives lowered the cognitive barriers to understanding, allowing him to visualize and mentally map abstract concepts onto familiar experiences. The doctor, meanwhile, observed that the vibrant visuals and dynamic pacing of videos and comics helped him stay focused and curious, countering the tedium often associated with long-form technical texts. For both, the educational materials were not only effective but actively enjoyable, a stark departure from previous experiences with whitepapers.

Crucially, participants observed a correlation between the appeal and intrigue of the content and its educational efficacy. Simpler analogies, grounded in commonplace scenarios, were credited with making abstract technological ideas more palatable and meaningful. Participants described how analogies involving sports, home activities, or everyday problem-solving provided mental shortcuts that facilitated immediate understanding. The visual design of the comics and videos, through the use of color, expressive characters, and sequential storytelling, was identified as a key driver of initial engagement. The interplay of these elements, relatable stories, striking visuals, and direct analogies worked synergistically to capture and sustain attention across multiple demographics.

Moreover, this finding highlights the broader pedagogical implication: educational materials that succeed in being visually and narratively appealing do more than simply transmit knowledge. They invite a wider spectrum of individuals into the learning process, including

those who might otherwise self-select out of technical education due to perceived difficulty or irrelevance. Participants suggested that this inclusive approach could attract learners from a range of professions, age groups, and technological backgrounds, fostering a more diverse and technologically literate society. The potential to spark curiosity among “non-traditional” audiences was seen as especially valuable in a world where digital skills are increasingly necessary for personal and professional advancement.

The collective interview responses revealed a strong endorsement for the use of comics and videos as effective mediums for making technical content not just intelligible but memorable and enjoyable. The correlation between accessible, analogy-rich storytelling and increased engagement suggests a paradigm shift in how technical education can and should be delivered. Rather than relying solely on traditional, text-heavy documents that often alienate large portions of the population, educators and content creators are encouraged to adopt visually rich, narrative-driven approaches that cater to diverse learning preferences and cultural contexts. This shift holds the promise of making emerging technologies more inclusive and comprehensible for all, ultimately supporting broader adoption and meaningful participation in the digital age.

5. What suggestions do you have to improve the comic or similar storytelling approaches to better support learners with diverse backgrounds and knowledge levels?

The participants in this study offered insightful suggestions aimed at enhancing the accessibility, depth, and engagement level of storytelling-based pedagogical methods for explaining complex technical concepts. Their feedback reveals a shared enthusiasm for expanding and enriching these creative approaches to accommodate a wider and more diverse audience. Particularly, the input from the IT professional and the doctor underscored the

necessity of lengthening the comics utilized in this educational framework. Both noted that the concise comics currently employed served primarily as introductory tools that merely “scratched the surface” of complex technological topics. They advocated for longer, more detailed comic series or graphic narratives that would provide space to delve deeper into the technical intricacies and subtleties often omitted in brief formats. Such extended storytelling could facilitate a more comprehensive understanding by allowing for gradual concept development, layered explanation, and the opportunity to address common questions or misconceptions within the narrative flow.

This suggestion reflects a broader pedagogical concern about balancing accessibility with technical rigor. Short comics are effective in introducing ideas and capturing interest, yet their brevity can limit the depth of exploration necessary for learners, particularly those with moderate to advanced knowledge or those seeking to apply the concepts professionally. By expanding the length and complexity of comics, educators could scaffold learners’ progression from foundational understanding to nuanced insights. This aligns with contemporary theories of cognitive load management and incremental learning, which emphasize the importance of pacing information density appropriately to avoid overwhelming or under-stimulating a learner. For example, multipart comic arcs could progressively unpack complicated topics such as cloud infrastructure design, identity management frameworks, or AI algorithm functioning, combining narrative engagement with technical completeness. The IT professional and doctor’s feedback thus points toward the need for a flexible narrative architecture that adapts to the knowledge level and learning objectives of diverse audiences.

Meanwhile, the retired professional contributed a valuable recommendation advocating for the integration of complementary educational resources alongside comics and videos,

specifically mentioning infographics. Infographics, with their ability to distill large volumes of data into easily interpretable visual summaries, could serve as an ideal adjunct to narrative storytelling. The retired professional argued that infographics would enrich the learning experience by providing alternate modes of representation, reinforcing key concepts, and catering to visual learners who benefit from schematic or data-driven presentations. This multimodal approach can promote cognitive reinforcement through dual coding, presenting information both verbally (via storytelling) and visually (via infographics), thereby enhancing comprehension and retention. Infographics could summarize processes such as the flow of data through cloud load balancers or the steps involved in identity and access management, offering quick reference points that support the more elaborate narrative content.

Furthermore, both the retired professional and the homemaker envisioned extending the learned material into the realm of mixed reality (MR) technologies, such as augmented reality (AR) or virtual reality (VR), to create immersive learning environments. They suggested that the application of these cutting-edge technologies could transform traditional storytelling into an experiential encounter, allowing learners to interact dynamically with cloud architectures, AI models, or cybersecurity scenarios in simulated settings. This proposed expansion taps into growing evidence that immersive learning experiences can increase engagement, motivation, and understanding by situating abstract concepts within interactive, sensorial contexts. For individuals including non-technical users, retired persons, and homemakers, MR technologies could provide intuitive “hands-on” experiences, enabling learners to visualize, manipulate, and experiment with technical systems in a low-risk, accessible manner. Such approaches promise to bridge the persistent divide between theoretical knowledge and practical comprehension, making abstract technologies feel tangible and approachable.

Collectively, these participant responses highlight a significant and growing demand for leveraging creative, multimodal, and technologically advanced strategies to demystify emerging technologies. The suggestions for longer narrative formats, visual adjuncts like infographics, and immersive MR experiences indicate recognition that traditional technical communication falls short of meeting diverse learner needs effectively. Moreover, these ideas emphasize inclusivity, offering pathways for individuals of different ages, cultural backgrounds, and technological familiarity to engage with complex subjects meaningfully. The focus on expanding formats also acknowledges that one-size-fits-all solutions are insufficient; instead, pedagogical materials must be versatile, adaptable, and capable of addressing a spectrum of learning preferences and goals.

From an educational design perspective, integrating these recommendations would necessitate thoughtful curricular and production planning. Developing longer comics requires sustained storytelling craftsmanship as well as collaboration between subject experts and creative teams to ensure accuracy without sacrificing narrative appeal. Incorporating infographics alongside narrative content calls for expertise in data visualization and instructional design to create complementary resources that reinforce learning coherently. Meanwhile, exploring mixed reality based instruction involves cross-disciplinary partnerships with technology developers, designers, and educators to create accessible, user-friendly applications that enhance learning without introducing prohibitive complexity or infrastructure requirements. Importantly, each expansion also raises considerations of accessibility, such as ensuring all learners, including those with disabilities or limited digital access, benefit equally from enriched content.

These diverse suggestions also reflect broader trends in contemporary science and technology education, where multimedia narratives, interactivity, and learner agency are increasingly prioritized. They reinforce the pedagogical imperative to move beyond static text

and embrace innovative, learner-centered approaches that make technical knowledge relatable, engaging, and actionable. As emerging technologies continue to permeate every facet of societal and professional life, the ability to communicate them effectively across multiple platforms and formats becomes critical. This study's findings thus contribute to an evolving discourse that calls for educational content producers to embrace creativity, technological integration, and cultural sensitivity in crafting materials that empower learners from all walks of life.

The participant's feedback for longer comics, complementary infographics, and immersive mixed reality experiences collectively highlight the transformative potential of combining narrative storytelling with multimodal educational strategies. By expanding the scope and sophistication of storytelling methods, educators and communicators can better meet the diverse needs of learners seeking to comprehend and apply emerging technologies. These insights serve as a call to action to invest in interdisciplinary collaborations and technological innovations that push the boundaries of how complex scientific and technical knowledge is conveyed toward models that are inclusive, engaging, and effective across varied demographic and experiential contexts. Embracing such creative advancements is essential for the democratization of technology education and the cultivation of technologically literate societies equipped for the challenges of the digital age.

4.6 Summary of Case Studying Findings

It was eye-opening to observe not just the final choices made by each participant regarding the analogies they preferred, but also to delve into the deeper reasons behind those choices. The retired professional, for instance, selected the analogy of laundromat services to grasp the fundamentals of cloud computing. She expressed a strong personal connection with this

analogy, remarking that she “could relate it well.” This choice likely reflected her familiarity with everyday services and routines that involve shared resources and centralized management concepts that parallel cloud computing’s model of resource pooling and remote accessibility. For her, the laundromat narrative provided a tangible, real-world framework within which abstract technology concepts could be anchored, making the unfamiliar much more accessible.

Similarly, the homemaker gravitated toward the analogy of a crowded bus stop to understand how cloud load balancers function. She explained that she could “run a narrative in her mind” about how people queue, wait, and board buses one at a time, which helped her conceptualize the process of load balancing distributing requests efficiently among multiple servers to avoid congestion. This mental storytelling was critical for her comprehension, as it linked new technological ideas to her lived experience of managing waiting lines and crowds. Notably, this analogy suited her cultural and environmental context better than other options, demonstrating how the effectiveness of an analogy is closely tied to personal and societal familiarity with the source domain.

The IT professional’s preference was quite different; he chose the story of the three little pigs to understand artificial intelligence fundamentals. Within his professional context, he was also comfortable engaging with more traditional technical documents such as whitepapers and web articles. This dual comfort stemmed from his routine exposure to technical writing norms and detailed manuals in his field, which made him more “hardwired” to the conventions and structure of that genre. Conversely, the doctor and teacher both found affinity with the analogy of a basketball game for AI concepts. The doctor, in particular, remarked on his habitual use of imagery and metaphor in scientific writing to clarify complex ideas, which naturally translated into a preference for visual and narrative learning when approaching cloud and AI technologies.

This contrast underscores how professional culture and disciplinary conventions shape not only preferences but also cognitive strategies for understanding difficult subjects.

Beyond individual preferences, what became evident was the profound influence of cultural backgrounds and prior experiences on how each participant constructed meaning from the analogies presented. Each person was able to map the processes described in the stories onto their own mental models and prior knowledge, effectively carving out new pathways for comprehending both cloud computing and the broader genres of storytelling and technical writing. Analogy functioned as an unexpected type of categorization tool, allowing participants to develop cognitive models that bridged the gap between unfamiliar technical processes and familiar everyday scenarios. This act of mapping and re-mapping reflects the dynamic interaction between culture, cognition, and education, highlighting how storytelling and the use of culturally resonant analogies can democratize complex scientific knowledge.

All participants unanimously voiced that their ability to position themselves within these stories significantly aided their understanding of the technical concepts. This “positioning” was not merely passive consumption but an active, interpretive engagement where they used their lived experiences and mental “libraries” of meaning to decode the stories. For example, the homemaker’s unfamiliarity with basketball, a sport not popular in her region reduced the impact of the basketball analogy on her learning, whereas the bus stop analogy resonated strongly due to its relevance and everyday presence. Even though she had never interacted with a load balancer in a computing context, relating it to a crowded bus stop allowed her to envision how balancing work across multiple servers functions practically. This shows how analogies that tap into culturally and experientially relevant domains can activate prior knowledge and scaffold new understanding much more effectively than generic explanations.

One remarkable shared insight among all participants was their eagerness and openness to learn more about cloud computing through storytelling and analogies. They appreciated how such creative educational techniques broke down the barriers of seeing these complex technologies as isolated, abstract phenomena operating in a vacuum. Instead, storytelling anchored technological concepts within familiar narratives, making them feel approachable and meaningful. This collective enthusiasm points to the potential of analogy and narrative as powerful pedagogical tools that can foster curiosity and confidence in learners from all walks of life, helping to demystify not only cloud computing but emerging technologies at large. It also suggests a broader cultural shift toward embracing varied educational genres that transcend traditional technical writing and promote inclusivity through relatable, imaginative frameworks.

4.7 Conclusion

The findings of this study reveal an evolution in the preferred modes and effectiveness of communicating complex technical concepts, especially in the context of emerging technologies such as cloud computing and artificial intelligence. Traditionally, the field of technical education has relied heavily on rigid genres, whitepapers, manuals, and text-heavy documentation that, while comprehensive, often alienate or intimidate those without a formal background in technology. This research demonstrates a marked pivot towards storytelling, particularly through the use of analogies embedded in comics and videos, as a strategy for making such content universally approachable. Far from being seen as oversimplification, narrative-driven and culturally meaningful analogies are increasingly embraced and valued by learners from diverse backgrounds. This embrace signifies the permeability of genre boundaries in contemporary technical communication and points to an imperative: if education about advanced technologies

is to be truly inclusive, it must adopt pedagogical methods that can flexibly accommodate the lived experiences and cultural contexts of all learners, not just those with technical training.

An in-depth look at the case study interviews enriches this insight, showcasing the nuanced interplay between culture, prior knowledge, and the cognitive process of understanding new information. Each participant's choice of analogy, whether it was laundromat services, crowded bus stops, the basketball game, or the tale of the three little pigs was rooted not simply in preference, but in deep familiarity and relevance to their everyday lives. This mapping between familiar scenarios and technical abstractions offers learners a bridge that transforms daunting technical jargon into relatable, meaningful knowledge. It also brings to the foreground the dynamic and individualized process of learning: a given analogy's effectiveness is not universal, but highly dependent on its cultural resonance and the learner's own frameworks of understanding. The participants' active engagement of running narratives in their mind, relating new processes to routine experiences, and expressing a sense of self-positioning within the stories attests to the empowering impact of this approach. It demonstrates that when analogies are chosen thoughtfully, drawing on cultural codes and personal relevance, they not only demystify technology but also activate learner's agency, curiosity, and confidence to explore further.

Collectively, the enthusiasm and openness voiced by all participants for analogy-based storytelling signal more than a pedagogical trend; they point to a paradigm shift in technology education. By dismantling the barriers set by exclusive reliance on traditional genres, educators and communicators can extend the reach and impact of technological literacy to previously underserved groups, like homemakers, retirees, non-technical professionals, and young learners alike. This democratization is not simply about inclusion for its own sake; it has tangible societal

implications. When more individuals from varied backgrounds feel equipped and motivated to engage with technologies like cloud computing, artificial intelligence, and cybersecurity, the process of technological adoption and diffusion is accelerated and enriched by a plurality of perspectives and applications. This cascading effect also encourages a broader embrace of lifelong learning, promoting adaptive thinking and resilience in the face of rapid technological change.

Furthermore, this newfound fluidity between technical writing and storytelling suggests that educational systems must evolve to reflect the realities of a multifaceted, interconnected world. Effective pedagogy must recognize the rich diversity of learners, drawing on approaches from narrative psychology, cultural studies, and education theory to craft resources that are equally rigorous and accessible. The study's evidence that analogies which tap into everyday routines, cultural practices, or even folklore can serve as powerful cognitive anchors should encourage curriculum designers, policy-makers, and technologists to integrate such techniques systemically. This evolution also highlights the importance of continual dialogue between educators and learners: soliciting feedback, iterating analogies, and remaining attuned to shifting cultural landscapes will be essential in maintaining the relevance and effectiveness of teaching tools.

In sum, the research underscores the transformative potential of narrative diversity in making technical knowledge meaningful, accessible, and empowering for all. As emerging technologies pervade more aspects of work and life, the ability to communicate their workings in culturally attuned, relatable ways becomes not just a matter of educational method, but of social equity and collective progress. By promoting curiosity, confidence, and a sense of belonging through creative pedagogical strategies, the field opens new pathways for participation and

innovation, ensuring that no group remains on the margins of technological advancement and that society as a whole can navigate the future with clarity, competence, and shared enthusiasm.

CHAPTER V: DISCUSSION

5.1 Fluidity of the Genre

According to Artemeva and Fox (2010), it's crucial to understand the "connections between cumulative prior knowledge and their ongoing experiences with or within a discipline over time and in relation to their ability communicate through the genres of that discipline" (p. 478). The amalgamation of the genre of storytelling and technical writing in the form of narratives and analogies, helped the participants map their prior knowledge to the new concept. They were no longer operating within two distinct genres, but standing in between the grey area defining them and moving across these preset boundaries to carve their worldview.

The concept of genre in literature has historically served as a framework for categorizing texts based on shared conventions, themes, and stylistic features. However, the boundaries of genre are increasingly recognized as fluid, allowing for hybridity and cross-pollination that challenge traditional classifications. According to Duff (2000), genres are not fixed categories but dynamic constructs that evolve through cultural and historical contexts, influenced by authors' innovations and readers' expectations. This fluidity is evident in works like Salman Rushdie's *Midnight's Children*, which blends magical realism, historical fiction, and postcolonial narrative, defying a singular genre identity. Such texts illustrate how authors manipulate genre conventions to create novel forms of expression, reflecting the complexities of modern identity and experience. This can be applied to technical education and upskilling as well to widen its reach and accessibility.

The fluidity of genre is further amplified by contemporary literary practices that prioritize experimentation and intertextuality. Postmodern authors, for instance, frequently subvert genre

norms by incorporating elements from multiple traditions, as seen in Margaret Atwood's *The Handmaid's Tale*, which fuses dystopian fiction with feminist critique and speculative allegory (Hutcheon, 1988). This blending not only enriches narrative depth but also engages readers in a dialogue about the instability of categorical boundaries. Moreover, the rise of digital literature and transmedia storytelling has further eroded rigid genre distinctions, as narratives now traverse platforms and formats, combining prose, visual art, and interactive elements. This convergence underscores the adaptability of genre, which reshapes itself in response to technological and cultural shifts.

The implications of genre fluidity extend beyond creative practice to influence literary criticism and pedagogy. Scholars like Frow (2006) argue that genre is a performative act, shaped by the interpretive communities that engage with texts. This perspective encourages critics to approach texts not as static exemplars of a genre but as participants in an ongoing dialogue that redefines generic boundaries. In educational settings, teaching genre as fluid rather than fixed fosters critical thinking, enabling students to appreciate the interplay of conventions and innovations in literature. As genres continue to evolve, their fluidity challenges both creators and audiences to rethink the ways stories are told, interpreted, and valued in an increasingly interconnected world.

Schryer, quoted by Artevema (2010), “develops an argument about the temporary stability of genres by proposing to use genre as a verb: we genre our way through social interactions, choosing the correct form in response to each communicative situation we encounter” (p. 331). It is interesting to look at genre as a verb, which associates it with action and response, rather than a fixed category around which people function. Genre presents itself as a space where individuals carve their identity and establish order amidst the social flux. The

respondents and case study participants chose video storytelling and web comics as preferred methods to understand technology, even though these methods are not hardcoded into the genre of technical writing. Genre, according to the responses, can be viewed as a negotiation, rather than an adherence to codified form, which stems from responses to various cultural and academic interactions. According to Anthony Pare (2002), “Genre’s illusion of normalcy is cracked at certain moments”, and this moment of “crack” is important for genre scholars (p. 61). It’s this moment of “crack” when we view it as a cultural artifact amidst social flux at the backdrop of the individual.

5.2 Analogies in Emerging Technologies

When readers encounter new information, they try to decode it using a pre-existing library of meaning encoded in their memory through various experiences and exposure. According to Leslie J Atkins (2004), “our scientific theories are often an extension of the stories that our lives tell: through our political systems, technology, and experiences” (p. 94). When the retired professional read about the analogy of a basketball game, she started putting different concepts from the field of artificial intelligence into the story, making sense of those theories based on her previous experiences. Dahlstorm (2014) observes how “narratives are easier to comprehend and audiences find them more engaging than traditional logical-scientific communication” (para. 2). All 5 participants expressed a learning towards mass media and storytelling format to understand emerging technologies. Even the survey outlined video storytelling, web comics and web articles as the major sources of information for all the participants, ranging from beginners to experts in emerging technologies. Dahlsotorm (2014) reiterates this by observing that “anecdote[s] ha[ve] a greater chance of reaching and engaging

with a nonexpert audience” (para. 2). The different symbols and comparisons used in analogies during the process of storytelling evokes a process for the readers to formulate interpretations, resonating with the examples familiar to them. These readers are not mere participants, but also co-authors in the story, where each reader carves their own understanding of the analogy based on their experience, exposure and cultural backgrounds. This, according to Dahlstorm (2014), introduces a challenge for writers, “to decide when and how narratives can effectively and appropriately help them communicate to nonexperts about science” (para. 2).

5.3 Cultural and Ethical Considerations

Genre is a residue borne out of various interactions between the individual and the society, a cultural artifact open to interpretation, and not just a fixed entity closed to revision. It is important to destabilize the definition of genre and render it open to investigation, if we are to take a cross-cultural perspective on genre. This thinking and interrogation of genre according to Carolyn R Miller (1996), started getting explored with the New Historicist reading of genres as “cultural constructions that reflexively help construct their culture” (p. 69). Readers of technical articles, as well as stories and analogies are not mere observers but participants, who help shape the course of the narrative. The participants of the case studies demonstrated a strong influence of culture on their preferred mode to understand emerging technologies as well as their choice of the analogy that stood out the most for them. The homemaker couldn’t relate to the basketball analogy as well as the doctor, who had good cultural exposure to the game. Culture not only shapes the understanding of the analogies, in turn mapping to the technical concepts; but also influences the worldview of the readers. In other words, genre is formed at the intersection of a writer’s response to individual and cultural experiences within a community of practice to which

they belong. Similarly, the two distinct genres of technical writing and storytelling are also shaped by individual and cultural forces, where people belonging to different occupational backgrounds are more open to exploring alternate modes of scientific and technical writing, like storytelling. The survey results showed IT professionals more comfortable with whitepapers and web articles in addition to video storytelling and web comics, while homemakers and retired professionals leaned towards the non-conventional mode of technical communications. This was partly influenced by individual choices, and partly by their understanding of the genre of science and technology, influenced by their peers, society and occupational culture. The IT professional expressed more comfort with whitepapers in his interview due to his exposure at workplace and the notion of the genre of technical writing within his professional circle, that carved his understanding. According to Bazerman (2002), “In recognizing and using genre, we are mobilizing multidimensional clusters of our understanding of the situation, our goals, and our activity” (p. 316). There’s an element of perception, antecedent knowledge and adaptation when we create the notion of genre in our mind. It’s due to the active engagement of readers in the act of storytelling that it has become crucial to remain sensitive to ethical considerations that may influence the readers in different ways.

Writers must balance their dual goal of not only engaging readers with their stories, but also present the information accurately without leaving much room for distortion of facts by the readers. Stories and analogies can be interpreted in different ways depending upon the person’s exposure, cultural and educational background, which makes it challenging for writers to communicate scientific or technical concepts using this medium. Shared narratives have the potential to define communities sharing a common ethnic or demographic background, as well as shared interests and experiences. This places a new responsibility upon the writer to stay

sensitive to the cultural forces and responses their stories may evoke while transmitting technical knowledge. The final consideration is that of distraction, since stories have the potential to stir imagination and introduce an element of distraction, swaying them away from the concepts or facts being presented. As researched by Dhote and Kumar (2019), “too much distraction within a story in the form of appeals and emotions may hinder information processing” (para. 34). It’s important to use analogies for relevant information without causing too much distraction, while keeping the readers engaged, and appealing to their interests and experiences. This negotiation between the readers, writers and society is central to creating narratives on emerging technologies, and transmit information for better accessibility and impact.

5.4 Summary

The findings of this study reveal a transformation in the modes and effectiveness of communicating complex technical concepts, especially in the context of emerging technologies such as cloud computing. Traditionally, the field of technical education has relied heavily on rigid genres like whitepapers, manuals, and text-heavy documentation that, while comprehensive, often alienate or intimidate those without a formal background in technology. This research demonstrates a marked pivot towards storytelling, particularly through the use of analogies embedded in comics and videos, as a strategy for making such content universally approachable. Far from being seen as oversimplification, narrative-driven and culturally meaningful analogies are increasingly embraced and valued by learners from diverse backgrounds. This embrace signifies the permeability of genre boundaries in contemporary technical communication and points to an imperative: if education about advanced technologies

is to be truly inclusive, it must adopt pedagogical methods that can flexibly accommodate the lived experiences and cultural contexts of all learners, not just those with technical training.

An in-depth look at the case study interviews enriches this insight, showcasing the nuanced interplay between culture, prior knowledge, and the cognitive process of understanding new information. Each participant's choice of analogy, whether it was laundromat services, crowded bus stops, the basketball game, or the tale of the three little pigs was rooted not simply in preference, but in deep familiarity and relevance to their everyday lives. This mapping between familiar scenarios and technical abstractions offers learners a bridge that transforms daunting technical jargon into relatable, meaningful knowledge. It also brings to the foreground the dynamic and individualized process of learning: a given analogy's effectiveness is not universal, but highly dependent on its cultural resonance and the learner's own frameworks of understanding. The participants active engagement of running narratives in their mind, relating new processes to routine experiences, and expressing a sense of self-positioning within the stories attests to the empowering impact of this approach. It demonstrates that when analogies are chosen thoughtfully, drawing on cultural codes and personal relevance, they not only demystify technology but also activate learner's agency, curiosity, and confidence to explore further.

Collectively, the enthusiasm and openness voiced by all participants for analogy-based storytelling signal more than a pedagogical trend; they point to a paradigm shift in technology education. By dismantling the barriers set by exclusive reliance on traditional genres, educators and communicators can extend the reach and impact of technological literacy to previously underserved groups like homemakers, retirees, non-technical professionals, and young learners alike. This democratization is not simply about inclusion for its own sake; it has tangible societal

implications. When more individuals from varied backgrounds feel equipped and motivated to engage with technologies like cloud computing, artificial intelligence, and cybersecurity, the process of technological adoption and diffusion is accelerated and enriched by a plurality of perspectives and applications. This cascading effect also encourages a broader embrace of lifelong learning, promoting adaptive thinking and resilience in the face of rapid technological change.

Furthermore, this newfound fluidity between technical writing and storytelling suggests that educational systems must evolve to reflect the realities of a multifaceted, interconnected world. Effective pedagogy must recognize the rich diversity of learners, drawing on approaches from narrative psychology, cultural studies, and education theory to craft resources that are equally rigorous and accessible. The study's evidence that analogies which tap into everyday routines, cultural practices, or even folklore can serve as powerful cognitive anchors should encourage curriculum designers, policy-makers, and technologists to integrate such techniques systemically. This evolution also highlights the importance of continual dialogue between educators and learners: soliciting feedback, iterating analogies, and remaining attuned to shifting cultural landscapes will be essential in maintaining the relevance and effectiveness of teaching tools. In sum, the research underscores the transformative potential of narrative diversity in making technical knowledge meaningful, accessible, and empowering for all, positioning creative pedagogical strategies as vital for inclusive and effective technology education.

5.5 Answers to Research Questions

1. What is the efficacy of using storytelling and analogies using comics and videos to explain complex technical concepts to individuals belonging to different backgrounds, ages and exposure to technology?

The efficacy of using storytelling and analogies, especially through comics and videos to explain complex technical concepts is strongly supported by evidence gathered from a diverse group of participants with varying backgrounds, ages, and levels of technological exposure. The study revealed a clear preference for dynamic, narrative-based formats, with video storytelling emerging as the most favored method for learning about emerging technologies. Such approaches leverage the power of engaging visuals, relatable narratives, and familiar cultural touchpoints, enabling individuals who may otherwise find traditional technical documents inaccessible to connect with and comprehend intricate ideas. Comics and video stories present information in an illustrative, context-rich manner, making abstract technological mechanisms more concrete and easier for learners of all ages and professions to understand.

The effectiveness of these methods is further amplified by their adaptability across different cultural and experiential contexts. Participants drew upon their own experiences to relate to the analogies presented such as laundromat services, crowded bus stops, and sports games, mapping these familiar scenarios onto abstract technical concepts like cloud computing and artificial intelligence. This personalized mapping process was evident regardless of prior technological knowledge, allowing those with minimal exposure, such as homemakers and retired professionals, to grasp ideas typically reserved for experts. Conversely, professionals with greater technical background also valued analogies, using them to enrich understanding and retain complex information through memorable narratives.

Ultimately, the use of storytelling and analogy-based comics and videos bridges knowledge gaps by providing inclusive, accessible entry points into technical subjects. These formats not only spark curiosity and confidence among learners from a range of ages and professional backgrounds, but also foster sustained interest and deeper comprehension. By transcending traditional genre boundaries and tailoring explanations to resonate with diverse experiences, storytelling emerges as a highly effective pedagogical tool for demystifying emerging technologies and expanding their societal reach.

2. Are our educators and learners ready to transcend genre boundaries to explain emerging technologies in creative formats?

The findings from this study suggest that both educators and learners are increasingly prepared, and in many cases, eager to transcend traditional genre boundaries in order to explain and understand emerging technologies through creative formats. Survey and interview results demonstrate a pronounced openness toward storytelling approaches, such as analogies delivered via comics and videos, particularly among learners from diverse backgrounds, age groups, and varying levels of technological familiarity. Rather than strictly adhering to technical documentation or conventional instruction, participants not only accepted but welcomed narrative-driven, visual, and context-rich explanations, finding them engaging and better suited for grasping complex technological ideas.

This cultural shift in educational preferences reflects the fluidity of genre in contemporary learning environments. While technical writing, whitepapers, and other traditional genres remain valuable for expert audiences and in-depth study, the research shows that many learners, such as homemakers, retired professionals, and even seasoned medical practitioners

benefit more from formats that blend storytelling, imagery, and relatable analogies. Educators, too, displayed adaptability, recognizing the importance of meeting learners where they are and incorporating creative teaching methods that activate students' prior knowledge and lived cultural experiences. The widespread willingness to position themselves within stories, as voiced repeatedly by participants, illustrates an emerging readiness to use narrative frameworks as cognitive tools for technological comprehension.

Overall, the readiness of educators and learners to move beyond rigid genre boundaries is both a reality and a necessity in the context of rapid technological change. The collective enthusiasm for creative explanation methods points to a transformative opportunity for educational practice. By embracing and legitimizing a broader array of pedagogical genres, both educators and learners can facilitate more inclusive, effective, and resonant learning experiences—ensuring that new technologies are accessible, not just to specialists, but to the wider society they are destined to impact.

3. What ethical and cultural considerations do we need to take into account while using the method of storytelling while explaining technical concepts to different individuals?

When employing storytelling and analogies to explain technical concepts, it is critical to recognize the profound ethical responsibilities that accompany the use of narrative-driven formats. One primary consideration is the need for accuracy and integrity in representation. While stories and analogies can make complex topics more relatable, there is a risk of oversimplification or distortion, which can inadvertently lead to misunderstandings or the spread of misinformation. Educators and communicators must therefore balance creativity with factual

rigor, ensuring that the narratives used do not sacrifice essential technical content for the sake of accessibility or entertainment.

Cultural sensitivity is equally paramount in crafting and delivering technical stories. Analogies and stories are rooted in cultural experiences, symbols, and shared practices, meaning that what resonates with one audience may not carry the same relevance or clarity for another. The participants in this study demonstrated how analogies involving laundromats, crowded bus stops, and basketball games varied in effectiveness based on their personal and regional backgrounds. If educators fail to consider the cultural context and lived experiences of their audience, stories may become alienating rather than inclusive, or even inadvertently reinforce stereotypes or biases. This underscores the importance of conducting audience analysis and gathering feedback to ensure that narratives are respectful, inclusive, and culturally appropriate.

Another ethical dimension involves equity and access. Since storytelling methods often rely on visual or audio formats, such as comics and videos, they may inadvertently exclude individuals with disabilities or limited access to technology. Providing text alternatives, accessible formats, and multilingual options becomes essential for ensuring that all learners, regardless of ability or background, can participate fully in the learning experience. Educators should also avoid creating narratives that implicitly reinforce barriers related to gender, socioeconomic status, or educational attainment, instead striving to craft stories that foster empowerment and equal opportunity.

Consent and privacy present further ethical considerations, particularly when narratives incorporate real-life examples, testimonials, or culturally sensitive scenarios. It is imperative to protect the anonymity and dignity of individuals whose experiences inform these stories, obtaining consent when appropriate and steering clear of identifying details that could

compromise privacy. Additionally, when stories are used to illustrate emerging technologies that may have security or ethical risks of their own (like AI, data privacy, or surveillance tech), communicators must also address those broader implications thoughtfully within the narrative, encouraging critical engagement rather than passive acceptance.

Finally, educators and practitioners need to be mindful of the power dynamics embedded in storytelling. Narratives shape perception and can influence attitudes and behaviors, so there is an ethical imperative to foster critical thinking, not mere persuasion. Stories should not become instruments of propaganda or oversell the benefits of technology while glossing over potential harms or complexities. By embracing transparency, encouraging dialogue, and validating diverse perspectives and critiques, technology educators can harness storytelling as a tool for empowerment and genuine understanding rather than mere compliance or cultural imposition.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

This study investigates the efficacy of using storytelling and analogy-driven formats, particularly comics and videos, to communicate complex technical concepts related to emerging technologies such as cloud computing. By employing a mixed-methods approach encompassing a global survey and in-depth case study interviews with participants from diverse socio-economic and professional backgrounds, the research reveals that narrative-driven educational methods significantly enhance comprehension and engagement. The findings highlight the fluidity of genre boundaries in technical communication, demonstrating that culturally relevant and contextually familiar analogies enable learners, including those with limited technical exposure to internalize and relate to abstract technological ideas effectively. This approach fosters inclusivity by bridging gaps traditionally created by dense, technical writing, thereby democratizing access to emerging technology knowledge.

Furthermore, the study underscores critical ethical and cultural considerations integral to the design and deployment of storytelling-based pedagogy. It emphasizes the need for accuracy, cultural sensitivity, and accessibility, ensuring that analogies resonate appropriately with diverse learners without oversimplifying or excluding marginalized groups. The research highlights the readiness among educators and learners to embrace multidisciplinary, genre-transcending methods that incorporate creative narrative formats while maintaining conceptual rigor. Ultimately, the study contributes valuable insights to the evolving discourse on science and technology education, advocating for adaptive, culturally responsive storytelling strategies as

essential tools for fostering technological literacy and equitable participation in a rapidly advancing digital landscape.

Chapter 1: Introduction This study highlights the increasing necessity of employing creative methodologies to demystify emerging technologies and facilitate their integration across various professional fields and everyday life. As emerging technologies continue to permeate diverse sectors and individual experiences, there is a critical need to develop innovative educational approaches that move beyond conventional technical communication. These creative strategies, including storytelling, offer promising avenues to enhance understanding, reduce barriers to access, and promote more widespread engagement with complex technological concepts. Recognizing the broad reach of emerging technologies among populations with varying backgrounds and levels of technical proficiency, this research underscores the importance of identifying and implementing diverse, culturally resonant methods for upskilling individuals. Storytelling and other narrative-driven techniques serve as effective tools to simplify intricate ideas, enabling learners to relate new knowledge to familiar contexts. By fostering technology adoption through such inventive pedagogical practices, this study aims to contribute to the equitable dissemination and sustained perpetuation of technological advancements in increasingly interconnected societal and occupational landscapes.

Chapter 2: Literature Review This chapter presents a comprehensive review of the existing literature concerning technical education, with a particular emphasis on the role of genre studies as they relate to technical writing and whitepapers as established mediums for knowledge dissemination. It examines how these traditional formats have been utilized to perpetuate learning within the field of emerging technologies, highlighting their strengths and limitations in effectively communicating complex technical information to diverse learner populations.

Furthermore, the review identifies significant research gaps regarding the application of creative methodologies in technical education, particularly as a means to demystify emerging technologies. It explores the potential opportunities offered by innovative approaches, such as storytelling and analogy-driven formats, to enhance comprehension and accessibility. By situating these emerging methods within broader educational and rhetorical frameworks, the chapter aims to elucidate paths for future inquiry that address inclusivity, engagement, and the evolving demands of technological literacy.

Chapter 3: Methodology This study employed a mixed-methods research design integrating both quantitative and qualitative approaches to comprehensively assess the effectiveness of storytelling and analogy-driven formats, specifically comics and videos in explaining complex technical concepts related to emerging technologies. Initially, a global online survey was administered to 207 participants from diverse socio-economic backgrounds, age groups, and geographic regions including India, the United States, and Australia. The survey, distributed through social media platforms such as LinkedIn, Facebook, Instagram, and WhatsApp, collected detailed demographic information alongside participants' exposure to technology, preferred learning modalities, and internet accessibility. This quantitative phase provided a broad understanding of learning preferences and patterns across a heterogeneous sample, while also identifying key variables relevant to technology comprehension. Following the survey, a purposive sampling strategy was used to select five participants representing distinct occupational and experiential profiles for in-depth, semi-structured interviews conducted via video conferencing tools like Zoom, WhatsApp Video, and FaceTime. These interviews focused on participants' responses to carefully curated analogies designed to demystify cloud computing concepts using web comics and animated videos sourced from the Cloud Demystified

website. The qualitative component aimed to uncover nuanced insights into how cultural backgrounds, prior technological familiarity, and personal experiences shape the efficacy of narrative-driven learning materials. This methodological combination enabled the study to triangulate data, validating survey findings with rich qualitative narratives and allowing exploration of both the breadth and depth of storytelling's impact on technology education.

Chapter 4: Results The research findings reveal clear variation in participants' familiarity with emerging technologies across different occupational and demographic groups. While professionals in IT and healthcare demonstrated intermediate to expert-level knowledge, participants such as homemakers, teachers, and retired individuals generally had limited exposure. Despite these differences, there was a shared enthusiasm for using creative storytelling methods, particularly web comics and videos employing culturally relevant analogies to comprehend complex concepts like cloud computing. The data shows a strong preference for dynamic and narrative-driven learning formats, with video storytelling being the most favored, followed by web articles and comics, and significantly less interest in traditional, text-heavy documents such as whitepapers or audio content. This underscores the potential of multimodal, engaging educational tools to bridge knowledge gaps among diverse audiences.

The case study interviews further illustrated how cultural context and prior experience influence the way learners interpret and internalize technical stories. Participants effectively mapped analogies grounded in everyday experiences, ranging from laundromat services to crowded bus stops and sports scenarios onto abstract technology concepts, enabling deeper comprehension regardless of their technical background. Importantly, the ability to relate personally to the narratives significantly enhanced understanding and motivation. While learners with technical expertise also valued the storytelling formats, their familiarity with conventional

technical writing made them comfortable navigating both. Overall, the results highlight the efficacy of culturally attuned storytelling as a pedagogical strategy that fosters inclusivity, engagement, and more accessible technology education across varied populations.

Chapter 5: Discussion The findings of this study underscore the significant role that storytelling, particularly through comics and videos employing culturally relevant analogies, plays in enhancing the comprehension of complex technical concepts among diverse learner groups. The clear preference for dynamic, narrative-driven formats over traditional, text-heavy technical documents highlights a shift in how emerging technologies can be effectively communicated. Notably, participants across different occupational backgrounds and varying levels of technological exposure were able to relate to familiar analogies, mapping everyday experiences onto abstract concepts such as cloud computing and artificial intelligence. This demonstrates that culturally attuned storytelling fosters deeper engagement, bridging gaps in knowledge that conventional technical education methods often leave unaddressed. The qualitative insights from case study interviews further reveal that such narrative tools do not merely simplify content but actively empower learners by enabling them to internalize and contextualize new information within their existing mental frameworks.

In conclusion, the study confirms that integrating creative storytelling methodologies into technical education offers a promising pathway to democratize access to emerging technologies. By transcending the rigid boundaries of traditional technical genres and leveraging analogies tailored to learner's cultural and experiential realities, educators and communicators can broaden the reach and effectiveness of technology literacy initiatives. However, the findings also emphasize the need for careful design to maintain factual accuracy, cultural sensitivity, and accessibility to avoid oversimplification or exclusion. Future research should explore a wider

array of narrative media and diverse populations to build on these insights. Ultimately, adopting flexible, inclusive, and narrative-based approaches is essential not only for improving comprehension but also for fostering equitable participation in the rapidly evolving digital landscape.

6.2 Implications

This study carries important implications for the evolving landscape of technology education and communication. It underscores that traditional, text-heavy modes of conveying complex technical ideas, such as whitepapers and technical manuals though rigorous, are often insufficient for reaching diverse audiences with varying degrees of technological familiarity. Storytelling through accessible formats like comics and videos opens new pedagogical pathways that can democratize knowledge. By making emerging technologies more relatable and less intimidating, these narrative-driven methods can broaden participation and understanding, thereby fostering a more inclusive technological literacy.

A significant implication is the recognition of genre fluidity in technical communication. This permeability between rigid technical writing and narrative storytelling means educators and communicators must be flexible, innovative, and culturally aware when designing educational materials. The success of analogies framed within culturally familiar narratives highlights the need for pedagogies that do not merely translate technical jargon but rather translate concepts into contextually resonant stories. This approach challenges institutions and curriculum designers to rethink and diversify their instructional models, accommodating learners whose experiences and backgrounds differ widely.

The study also points to the critical role of cultural sensitivity in knowledge dissemination. Analogies and narrative formats must be carefully tailored to the cultural realities and lived experiences of learners. Failure to account for cultural context can result in disengagement or misunderstanding, as seen in participant responses where some analogies resonated more strongly due to familiarity. This calls for ongoing audience analysis, iterative development of teaching materials, and the inclusion of diverse voices in content creation to ensure that educational stories are inclusive and effective across demographic boundaries.

Moreover, the findings raise ethical considerations about accessibility and equity in education. While storytelling formats are engaging, educators must be vigilant to ensure that these methods remain accessible to learners with disabilities or those facing technological limitations. This implies a responsibility to provide multi-modal materials, including text alternatives, multilingual options, and low-bandwidth solutions. Otherwise, the risk is the inadvertent exclusion of marginalized learners, deepening rather than bridging existing digital divides. Educational institutions and content developers must prioritize universal design principles and equity-oriented practices when adopting creative teaching tools.

From an organizational standpoint, the study suggests that companies, technology vendors, and public institutions can leverage storytelling strategically to accelerate technology adoption. User uptake is foundational to the success and evolution of any emerging technology. By translating technical complexity into relatable narratives, organizations can reduce resistance, lower learning curves, and create meaningful connections between technology and everyday users. This user-centric communication can enhance market acceptance and foster innovative applications beyond traditional technology circles.

The research also has implications for interdisciplinary collaboration in education and communication professions. Effective storytelling in technical domains requires a fusion of expertise from pedagogy, psychology, cultural studies, and ethics. Developing such content is not solely the domain of engineers or technical writers; instead, it demands teams that can craft engaging, culturally resonant, and ethically sound narratives. This calls for fostering collaborative frameworks that bring together educators, designers, technologists, and cultural experts to co-create educational materials that truly meet diverse learner needs.

In the broader societal context, the study highlights the potential of analogy-driven storytelling to contribute to digital inclusion and empowerment. As technological proficiency increasingly intersects with economic opportunity, social mobility, and civic participation, enabling broad-based comprehension of emerging technologies becomes a matter of social equity. Storytelling thus emerges not only as an educational tool but as a vehicle for democratizing access to the benefits and opportunities created by technological advancement, helping to prevent knowledge elites and fostering equitable progress.

Finally, the study encourages further research and experimentation to expand the scope of storytelling in technical education. While comics and videos featured prominently here, other narrative forms, including audio stories, interactive simulations, AR/VR experiences, and community storytelling present untapped possibilities for engagement and learning. Future investigations should explore how these multimodal formats intersect with learners' preferences, cultural backgrounds, and situational contexts. This ongoing inquiry will be key to refining methods that effectively bridge the persistent gaps in technology understanding, adoption, and innovation across global and socio-cultural divides.

This study also demonstrates that traditional methods of technical communication often struggle to engage a wider audience due to their complexity and dense presentation. By integrating storytelling with creative media formats such as comics and videos, complex technological concepts become accessible to a broader spectrum of learners, regardless of their background or prior experience with technology. This approach fosters greater inclusivity by adapting to the varied ways people perceive and absorb information.

The importance of aligning educational content with learner's cultural and personal contexts emerged as a critical factor for effective learning. Tailoring analogies to match the audience's familiar experiences enhances comprehension and relevance, emphasizing the need for ongoing adaptation and responsiveness in instructional design. These insights encourage educators to prioritize the learner's perspective in developing materials that resonate meaningfully.

Another implication concerns the necessity to maintain ethical rigor while using creative methods. Careful design is essential to avoid simplifications that compromise accuracy and to ensure accessibility for individuals with disabilities or limited digital resources. The commitment to inclusivity requires that materials be versatile and considerate of diverse learner needs, preventing the exclusion of vulnerable populations from technological education.

From an operational standpoint, using storytelling can serve as a strategic means for organizations to boost understanding and acceptance of emerging technologies. When complex innovations are presented through familiar narratives, they become less intimidating and easier to adopt, thereby fostering wider integration into everyday practices. This highlights the potential of narrative techniques to bridge the gap between technological advancement and practical application.

Finally, this research underscores the value of interdisciplinary collaboration in developing educational resources. Combining expertise from various fields can enhance the quality, cultural sensitivity, and ethical foundation of storytelling tools. Exploring a broader range of narrative mediums remains a promising avenue to further engage diverse audiences and evolve educational practices in line with contemporary needs.

6.3 Scope

This study focuses on exploring the use of creative storytelling methods, specifically analogies delivered via comics and videos to explain complex technical concepts related to emerging technologies. By targeting a diverse sample spanning multiple professions, age groups, and levels of technological exposure, the research aims to evaluate how these alternative educational formats can bridge knowledge gaps and enhance understanding. The scope encompasses both quantitative data collected from a global survey and qualitative insights derived from targeted case study interviews, allowing for a multifaceted examination of learning preferences and effectiveness.

Geographically, the study primarily involves participants from India, the United States, and Australia, reflecting a mix of cultural contexts and technology adoption levels. Although this regional focus limits generalizability, it provides a valuable cross-section of experiences from developed and developing environments with varying degrees of digital infrastructure. The research pays particular attention to how socio-economic backgrounds, occupational diversity, and access to stable internet connections impact participants' engagement with and receptivity to storytelling as a pedagogical tool.

This investigation is confined to specific formats of storytelling, web comics and video analogies chosen for their ability to combine visual, narrative, and contextual elements in a compact and engaging form. While other narrative and multimedia methods exist, such as podcasts or interactive simulations, these two formats serve as focused case studies within the broader field of creative technology education. The study examines the participants' preferences among several analogies designed to demystify cloud computing fundamentals, making the scope anchored in actual educational content rather than abstract theory alone.

The scope also includes evaluating both learners and educators readiness to move beyond traditional technical writing towards more fluid, genre-crossing communication methods. It seeks to understand not just which formats are preferred, but why learners from different backgrounds gravitate toward certain storytelling techniques, considering cultural resonance, learning styles, and ethical considerations. This focus on the nuances of genre fluidity and cultural fit highlights the study's intention to contribute not only practical insights but also conceptual frameworks relevant to the evolution of technical education.

Though findings cannot be universally generalized, the research aims to open a dialogue about the impacts of narrative and creative genres in science and technology communication. By outlining possibilities for future research across a wider demographic, narrative variations, and technological contexts, the study scopes itself as a foundational inquiry with implications for educators, communicators, and organizations looking to foster inclusive and effective technology learning.

6.4 Conclusion

This study highlights the substantial promise that narrative techniques, particularly analogies disseminated through visual media like comics and videos, hold for enhancing comprehension of sophisticated technological topics. By engaging a heterogeneous sample that spans a broad demographic spectrum, the research supports the premise that such creative pedagogical tools can effectively mediate complex ideas, making them more tangible for learners who may be unfamiliar with conventional technical discourse.

The role of cultural and experiential factors emerges as a pivotal determinant in how learners internalize and make meaning of technical narratives. The deployment of contextually grounded analogies allows for the construction of mental models that bridge gaps between abstract technological constructs and everyday realities. This phenomenon emphasizes the importance of inclusive instructional design that is sensitive to the diverse cognitive frameworks and cultural reference points of learners.

Additionally, the research underlines a growing inclination within educational stakeholders to embrace interdisciplinary and genre-blurring methodologies. Integrating storytelling into technology education necessitates a balance between maintaining conceptual accuracy and fostering engaging, culturally relevant learning experiences. This approach encourages critical thinking and nurtures learner autonomy by situating technical knowledge within relatable contexts.

In conclusion, this study contributes to advancing the discourse on effective science and technology communication by evidencing that adaptive and culturally responsive storytelling approaches are not only viable but essential for broadening access and enriching understanding. Continued scholarly attention and practical experimentation with varied narrative strategies will

be instrumental in cultivating pedagogical innovations that align with the evolving needs of diverse learner populations in an increasingly technological society.

6.5 Future Research and Limitations

This research was conducted using a relatively small and specific sample consisting of 207 survey respondents and in-depth case studies of five individuals, all representing a wide range of ages and diverse professional backgrounds. While this breadth adds some diversity, it is important to note that most of these respondents came from the personal and professional networks of the researcher, therefore creating certain limitations. These networks were geographically confined primarily to India, the United States, and Australia, which restricts the generalizability of the findings to other parts of the world where cultural, technological, and educational contexts may differ significantly. Additionally, a notable number of respondents already had some degree of exposure to the Cloud Demystified website, a platform that employs storytelling techniques specifically designed to explain cloud computing concepts. This prior exposure could have influenced their preferences and receptiveness toward storytelling as a learning method, thus introducing a potential sample bias. Consequently, while the findings provide valuable insights and contribute to initiating dialogue around genre studies and storytelling in science and technology communication, they cannot be broadly generalized across global populations or contexts without caution.

Recognizing these limitations points to important avenues for further research. Future studies could be conducted on a substantially larger and more demographically varied global population, thereby encompassing a greater diversity of cultural backgrounds, gender identities, educational attainments, and subcultures. This would paint a more comprehensive picture of how

storytelling as a genre interacts with technical education across different societal segments.

Moreover, the current research was conducted with participants who had stable internet access at home, an important but exclusive criterion that overlooks populations experiencing digital divides or inadequate connectivity, which remain critical barriers to technology education in many parts of the world. Beyond web comics and video storytelling, the narrative forms explored here including additional storytelling formats such as podcasts, interactive simulations, augmented reality experiences, and oral storytelling traditions could also be examined. Each of these may engage learners differently and hold unique potential for demystifying emerging technologies among varied audiences. Exploring these additional narrative forms would enrich understanding of storytelling's multifaceted role in science communication and broaden the interdisciplinary discourse around genre's evolving nature within rhetoric and composition studies.

This study itself contributes meaningfully to the ongoing scholarly conversation on genre fluidity, especially within the domain of technical communication. Genre should be viewed as an organic, evolving process rather than a static category. Writing and communication styles continually adapt in response to technological innovation, changing audience expectations, and cultural shifts. As this research illustrates, integrating storytelling into traditionally technical fields reflects this organic evolution, allowing educators and communicators to become more adaptive, inclusive, and effective at conveying complex ideas. The findings support the argument that storytelling as a rhetorical tool is not at odds with scientific rigor but instead enhances engagement, comprehension, and retention. By bridging the gap between abstract technical concepts and relatable narratives, storytelling enables a wider range of individuals to access and

internalize knowledge that might otherwise remain inaccessible due to traditional, rigid genre conventions.

Finally, beyond academia, this research opens promising pathways for organizations and industries to harness the power of storytelling as a strategic tool for educating diverse audiences about emerging technologies. At the core of every successful technology, whether novel or mature are the users and adopters who integrate it into their daily lives and workflows. Without effective adoption, even the most groundbreaking technologies risk stagnation or obsolescence. In today's rapidly evolving world, the broader and more inclusive the understanding of emerging technologies, the greater their potential impact on society and global progress. Storytelling, with its deep historical roots in science and technology communication, remains an essential vehicle to convey cause-effect relationships, illustrate abstract mechanisms, and build bridges from unfamiliar concepts to everyday experiences. By making emerging technologies more relatable, accessible, and meaningful, storytelling can help demystify misconceptions and reduce apprehension, empowering more people to confidently embrace innovations that increasingly underpin everyday operations, economic growth, and societal transformation. This need to democratize technological knowledge is not only timely but imperative as digital dependence becomes ever more integral to modern life.

In summary, this research lays foundational insights into how storytelling and genre flexibility can aid technology education, identifies its present constraints, and suggests rich directions for future inquiry and practical application. As emerging technologies continue to proliferate, the methods we use to communicate their intricacies must evolve accordingly by embracing creativity, cultural relevance, and inclusivity to ensure their benefits are broadly realized and shared.

6.6 Conclusion

This research provides compelling evidence supporting the integration of storytelling and analogy-driven visual media as highly effective tools for enhancing the comprehension of intricate technical subject matter. By engaging participants from a wide array of demographic and professional backgrounds, the study demonstrates that these alternative pedagogical strategies can overcome barriers typically posed by traditional didactic formats. The use of culturally anchored narratives facilitates the internalization of abstract technological concepts, enabling learners to construct meaningful connections that enhance cognitive accessibility and retention.

Moreover, the findings reveal that learner engagement is significantly influenced by the cultural relevance and contextual familiarity of the analogies employed. When instructional materials resonate with the lived experiences and cultural frameworks of diverse audiences, learners show increased motivation and a greater sense of ownership over their understanding. This underscores the value of adopting a learner-centered approach that prioritizes adaptability and inclusivity in educational design, particularly when addressing complex, rapidly evolving technological fields.

This study highlights the necessity for educational paradigms in science and technology to evolve beyond rigid genre constraints by embracing multidisciplinary and culturally responsive methods. The expansion of narrative-based pedagogies holds great promise for democratizing technological knowledge and fostering equitable participation across a spectrum of learners. Future research should continue to explore innovative storytelling modalities and assess their long-term impact on learning outcomes, thereby contributing to the ongoing refinement of effective technology education practices within diverse sociocultural contexts.

APPENDIX A

SURVEY QUESTIONS

24/01/2020 Emerging Technologies - Communication Survey EXIT



**Emerging Technologies -
Communication**

* 1. What's your primary occupation?

- ☐ IT/Business Professional
- ☐ Student
- ☐ Homemaker
- ☐ Retired Professional
- ☐ Teacher
- ☐ Artist/Designer
- ☐ Doctor/Medical Professional
- ☐ Other (please specify)

* 2. How would you classify your knowledge about emerging technologies? (Cloud Computing, Artificial Intelligence, Internet of Things etc)

- ☐ Beginner or no knowledge

<https://www.surveymonkey.com/s/GC7L61K> 1/3

☐ Intermediate

☐ Expert

* 3. Out of the following, what's your preferred mode of learning about emerging technologies? (select all that apply)

☐ Whitepapers

☐ Video storytelling

☐ Web Comics

☐ Audio storytelling

☐ Web articles

* 4. Do you have a stable internet connection at your home?

☐ Yes

☐ Yes, but it's not great

☐ No

Done

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APPENDIX B

INFORMED CONSENT

Research Title: STORYTELLING IN THE DIGITAL WORLD: THE POWER OF NARRATIVES AND ANALOGIES TO DEMYSTIFY EMERGING TECHNOLOGIES

Principal Investigator : My name Vijeta Pai. I am a DBA learner at SSBM GENEVA. I am conducting a study and you are invited to participate.

Purpose of the Study:

This study aims to assess the efficacy of using creative methods like storytelling, analogies and videos to demystify emerging technologies.

Procedures:

If you agree to participate, you will be asked to complete a structured survey. The survey will include questions about your occupation, preferred mode of learning, comfort with technology and access to a stable internet connection. It will take approximately 15–20 minutes to complete. Based on your responses, you may be selected for a 30 minutes interview to dig deeper into your responses by asking your feedback and responses to 8 analogies explaining emerging technology fundamentals and best practices.

Confidentiality:

All information you provide will be kept confidential and used solely for academic purposes. Your responses will be anonymized to ensure that no personally identifiable information is

included in the study's results. The data will be securely stored and accessed only by the researcher and authorized personnel.

Potential Risks and Benefits:

There are no significant risks associated with participating in this study. Your participation will contribute to valuable insights into improving the quality and accessibility of technical education.

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Consent Statement:

By signing below, you confirm that you have read and understood the information provided above. You consent to participate in this study and allow the researcher to use your responses for academic purposes.

Participant's Name: _____

Participant's Signature: _____

Date: _____

Researcher's Signature: _____

Date: _____

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